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

Eradication programme of Ovine and Caprine Brucellosis

Approved* for 2011 by Commission Decision 2010/712/EU

Greece

* in accordance with Council Decision 2009/470/EC
OVINE AND CAPRINE BRUCELLOSIS CONTROL AND ERADICATION PROGRAMME FOR THE YEAR 2011

REVISED PROGRAMME (August 2019 following EU recommendations)

FOR CO-FINANCED APPROVAL BY THE COMMUNITY

GREECE
1. Identification of the programme

Member State: GREECE

Disease: *Ovine and Caprine Brucellosis Control and Eradication Programme*

Request of co-financing for: 2011

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2. Historical data on the epidemiological evolution of the Disease

2.1 CURRENT EPIDEMIOLOGICAL SITUATION

2.1 EPIDEMIOLOGICAL SITUATION IN THE MAINLAND

Greece is divided in 54 prefectures called Nomos. For the implementation of ovine and caprine brucellosis control and eradication programme the whole country is divided in two parts. At the part I (mainland), a B. melitensis control programme is implemented based on
mass vaccination and at the part two (islands) a B. melitensis eradication programme is implemented based on test and slaughter policy for infected ruminants.

The white areas in the MAP 1 of ANNEX I (word file attached: MAPS BMP2011) are the sections of the country in which an eradication program based on test and slaughter policy will be implemented.

The grey areas represent the regions where the Brucella melitensis control programme will be implemented based on mass vaccination of young and adult animals.

In ANNEX I (past file attached: ANNEXI&II2005Rev1) Table 1 presents the epidemiological situation in all the prefectures of the country at the end of the year 1998, which was the initial start of the five-year term program. Tables 2,3,4,5 and 6 are also included in the annex and present the number of animals vaccinated in each prefecture from 1997 up to 31-12-2003. For the year 2004 and 2005, the Annexes I (past file attached: Results BMEL 2004R1.xls and the new file attached: Results BMEL 2005.xls) present the mass vaccination follow-up data from the Hellenic Regions (Nomos) in the mainland. The 2004 and 2005 epidemiological data regarding the bovine Vaccination programme under the B. melitensis control programme with Rev 1 vaccine are presented in the specified excel sheets of the attached past files: Results BMEL2004R1.xls and Results BMEL 2005.xls respectively. The reported results of the 2007 and 2008 Programme vaccination in semi-wild bovines can be found in the attached excel file: <Vaccination Data 07 & Targets 09 BM SG.xls > and < Vaccination Data 08 & Targets 2010 BM SG.xls > respectively. The summary vaccination data for the Reporting Year 2009 (ANNEX 1 based on CD 2008/425/EC) are attached in the EXCEL file” BM REV1 VACCINATION DATA 09”.

2.2 EPIDEMIOLOGICAL SITUATION IN THE ISLANDS

In the islands (eradication zone), except Evia, Leros and Lesvos, the 2009 (0.28%) reported B.melitensis flock incidence in sheep and goats tested (generated based on the data submitted to Central authorities by the prefecture veterinary directorates) was lower compared to 2008 (1.80%) and 2007 (3.04%) respectively. In addition the 2009 flock prevalence (3.36%) reported significantly lower in comparison with 2008 prevalence rate (7.36%).

The results of implementation of the eradication programme for the years, 1998-2003, as well as the epidemiological situation of the flocks and bovine herds under the REV 1 vaccination programme are presented in Tables 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 and 22 of Annex I (past file attached: ANNEXI&II2005Rev1). For the year 2004, Tables 1 and 2 (past file attached: EPROGME04.doc) comprise data from the eradication zone. For the Reporting years 2005 and 2006, analytical records and relevant epidemiological and statistical descriptive data (eradication test results, flock and animal prevalence rates, epidemiological situation according to the animal health status required by the programme implementation on the eradication zone) are presented in the attached file sheets of previous submitted in the Commission Reports (file names: BM OC ERADICATION PR 2005.xls and ERADICATION EPIDEMIOLOGY 2006.XLS/ Historical data folder).

For the Reporting year 2007, Data sets and relevant epidemiological and statistical records can be found in the previously attached excel file for Brucella eradication programme implemented in 2007 (ERADICATION SG BM 2007.XLS).

For the Reporting year 2008, Data and relevant epidemiological statistics can be found in the attached excel file for Brucella eradication programme implemented in 2008 (ERADICATION SG BM 2008.XLS).
For the Reporting year 2009, Summary Data and relevant epidemiological statistics can be found in the attached excel file for Brucella eradication programme implemented in 2009 (ERADICATION SG 2009.XLS).

2.3 BRUCELLOSIS IN HUMANS – Public Health Significance

Based on Reported human Brucella incidence data from the Hellenic public health authorities the reported cases in humans were 548, 405, 331, 239, 233, 337, 287, 151, 346 and 114 (2009) for the reference years 2000 – 2009 respectively. These results indicate epidemiological variations on infection rate and significant decreasing trends of human brucellosis cases in Greece over the time. The significant increase of Brucella cases in 2008 (346) was due to an outbreak occurred in the island of Thasos. The reported cause of this foodborne outbreak was the consumption of local dairy products made of unpasteurized milk.

Related retrospective data presented in Diagram 1 of ANNEX I (previous Historical files submitted to the Commission), conclude that, the incidence of Human brucellosis has been decreasing the last years in accordance with the implementation of the sheep and goat vaccination programme.

3. DESCRIPTION OF THE SUBMITTED PROGRAMME

INTRODUCTION

Brucellosis due to B. melitensis is a serious zoonoses, sometimes fatal, and the rural population especially persons that are in close contact with animals are in potential risk getting the disease. Brucellosis is also a significant disease that causes significant economical losses in sheep and goat farming due to abortions and quality degradation of animal products as well as reduction in milk production.

In Greece, since 1-1-1999, the Veterinary Service of the Ministry of Rural Development and Food has run a control and eradication program. Different strategies for the control and eradication of brucellosis have been chosen in the mainland and in the islands. In the mainland, where the prevalence of brucellosis in sheep and goat flocks is high, transhumance of the flocks is a practice, emergency mass vaccination of lambs, kids and adult animals has been decided as the first step of the control of brucellosis. The aim of this action is the effort of decreasing the high incidence and prevalence of the disease in the mainland.

In the islands, where the disease is at low prevalence among sheep and goat flocks, all the permitted factors are in favor to implement a test and slaughter policy for the eradication of brucellosis.

Following the evaluation of the current situation and taking into consideration: a) the ovine and caprine brucellosis is a zoonotic disease of major public health impact on the Community b) the observed dynamics of inter community market of live animals, meat, milk and animal products c) the increase of animal production and d) the significant risk of young animals, especially the female replacement animal stock to get infected, the Greek Veterinary authorities are obliged to intensively continue the same uniform policy for the year 2011 (for the two specified sections of the country-mainland and islands) on a more systematic and efficient manner compared to previous years of programme implementation.
So far, the recommendations of the Task Force Subgroup have been taken in consideration and actions for their implementation have been planned. In the islands the implementation of the eradication program will be enforced based on the available resources during 2011, so most of the sheep and goat flocks in these areas should be tested at least once. However the officially free health status has strictly recommended to be suspended for the flocks that the routine testing frequency is not fulfilled. Additionally, a significant occurrence of the disease has appeared in the recent past years in the islands of Lesvos and Leros respectively. Based on test and slaughter policy, eradication of the disease would not be efficient for these two island and mass vaccination was decided to be implemented in the years 2008, 2009, 2010 and be continued in 2011 as well.

In the mainland the emergency mass vaccination of young and adult animals will be continued and enhanced to increase and finalize the vaccination coverage of the existing non vaccinated flocks. As an additional measure in some prefectures, the wild bovines grazing in common pastures with sheep and goat flocks will be vaccinated too.

**LEGAL BASIS. MEASURES AND TERMS OF LEGISLATION UNDER THE PROGRAMME**

The legal basis of the programme is:

1. Directive 91/68 EEC
2. Council’s Decision 90/424 EEC
3. Council’s Decision 90/242
4. Presidential Decree 133/1992
7. Presidential Decree 242/2005
9. Ministerial Decision 258735/17.07.2007 and the relevant amendment of national Decision for the programme implementation

**AUTHORITIES RESPONSIBLE FOR THE CO-ORDINATION AND IMPLEMENTATION OF BRUCELLOSIS PROGRAMME**

The authority, which is responsible for the co-ordination and control of small ruminant’s brucellosis eradication programme in whole country, is the Department of Zoonoses in the Directorate of Animal Health in the Central Veterinary Service of the Ministry of Rural Development and Food.

The Department of Zoonoses is responsible for the co-ordination and control of all District Veterinary Services involved in the implementation of the programme. This department
collects the data, makes statistical analysis, evaluates the implementation of the program and informs the relevant authorities in the European Union about the progress of the programme.

It has also the responsibility to issue Ministerial Orders for the implementation of the programme, as well as the bi-ministerial order determining the terms and the amount of compensation.

A committee for the co-ordination, monitoring and evaluation of Brucellosis control and eradication programme has been established in the Central Veterinary Service since 1996. The committee assists the Department of Zoonoses in the co-ordination, implementation, monitoring and evaluation of the programme.

The committee is constituted by:
1) The Director of Animal Health Directorate in the Ministry of Rural Development and Food who will act as President.

2) The Head of the Department of Zoonoses in the Ministry of Rural Development and Food who will act as Vice-President.

3) A senior veterinary officer of the Department of Zoonoses in the Ministry of Rural Development and Food who will be a member.

4) An epidemiologist appointed by the Central Veterinary Service of the Ministry of Rural Development and Food who will be the technical adviser of the committee.

The committee will meet at least once a year in order to evaluate the progress of the programme in each prefecture and in the whole country.

In case that the targets set in advance in a prefecture were not achieved, the committee will evaluate the situation, will take corrective measures and will make an action plan for the targets to be achieved.

In such a case in the committee will participate also:

1) The District Veterinary officer of each district - prefecture (Nomos)

2) The Head of Animal Health department of each district. (Nomos)

3) The Director and the Head of Microbiology Department of the Regional Veterinary Laboratory of the area.

AUTHORITIES FOR THE IMPLEMENTATION OF THE PROGRAMME

The District Veterinary Service in each prefecture is responsible for the co-ordination of Field Veterinary Services in the district. It collects data referring to the implementation of the programme in the district and informs the Department of Zoonoses in the Central Veterinary Service.

Field Veterinary Services are responsible for a) the implementation of the programme, b) the identification and registration of the animals, c) the identification of infected animals c)
the issuing of the relevant movement certificates of animals for the slaughterhouses and transhumance of the flocks and e) the disinfection of premises.

REFERENCE LABORATORY FOR BRUCELLA

The National Reference Laboratory for brucellosis has the responsibility for the co-ordination of other state laboratories and the harmonization of the tests performed for the diagnosis of brucellosis. For this purpose, the reference laboratory conducts ring tests among regional laboratories. The reference laboratory is also responsible for the purchase, quality control and distribution of all the necessary reagents.

The reference laboratory organises training meetings with the personnel of the other laboratories in order to improve and update laboratory techniques in the field of brucellosis diagnosis.

The National Reference Laboratory for Brucellosis will participate in the Network of Brucellosis Reference Laboratories of the Member States, as well as in the ring trials conducted by the EU Reference Laboratory for Brucellosis.

The National Reference Laboratory for Brucellosis has also the responsibility of implementing and evaluating new diagnostic tests for the diagnosis of brucellosis in small ruminants and in bovines.

REGISTRATION OF FLOCKS AND IDENTIFICATION OF ANIMALS

- All sheep and goat flocks must be registered in the Local (Field) Veterinary Service (F.V.S) of the area and a yellow ear tag must identify the animals used for reproduction in a flock. The number on the ear tag is consisted by two letters corresponding to the country's name, two digits indicating the prefecture (Nomos), two digits indicating the code number of the flock, and six digits representing the registered number of the animal.

- The vaccinated animals will be marked with the same ear tag and with a tattoo in order to be recognisable from the non vaccinated animals.

- The registration of the flocks and identification of the animals is compulsory.

- A flock record will be kept by the farmer, in which all the animals are registered every year. A copy of this record must be kept in the F.V.S. of the area.

MOVEMENT OF ANIMALS

- The movement of sheep and goat flocks or a single animal is prohibited unless an official Veterinary Certificate issued by the F.V.S of the area accompanies them.

- For the flocks reared in the islands, the health status of the flock of origin must be mentioned in the certificate, as well as the purpose of movement and the final destination.
• For the flocks reared in the mainland the vaccination status of the flock or the animal must be mentioned in the certificate.

• A copy of this certificate must be sent officially to the F.V.S of destination so the arrival of the flock or the single animal can be verified.

• The rules for intra and extra district transhumance are the following:

• Transhumance of a flock is permitted by the F.V.S. of the departure area that issues a relevant certificate. The certificate must be stamped in the area of arrival by the F.V.S. In the islands the certificate must indicate the health status of the flock and in the mainland the status due to vaccination.

• In the islands sheep and goat flocks grazing in common pastures must be of the same health status and should not come in contact with flocks of lower or unknown health status.

• The vaccinated flocks may move for transhumance and should come in contact only with vaccinated flocks.

• The movement of live animals from the mainland to the islands, where eradication program is implemented, is prohibited.

GEORAPHICAL AREA OF THE IMPLEMENTATION OF B. MELITENSIIS CONTROL AND ERADICATION PROGRAMME

The programme will be implemented all over Greece, in the mainland and the islands. Different measures will be implemented in each district of Greece. The white area (MAP I / ANNEX I) indicates the eradication zone (test and slaughter policy) and the grey area the control programme (zone of mass vaccination of young and adult animals).

The grey areas on MAP II /ANNEX I, indicate the prefectures in which bovine vaccination is carried out using REV-1 vaccine. The majority of these free-range (semi-wild) bovines are reared close to sheep and goats in common pastures. This action is an additional measure to control the spread of brucellosis in high-risk mainland areas.

4. MEASURES OF THE SUBMITEED PROGRAMME

DURATION OF THE PROGRAMME

The control and eradication programme for brucellosis in ovine and caprine flocks will be implemented under the supervision of the Greek Veterinary services on annual basis. The overall duration of the programme depends on the disease prevalence reduction in the coming year (2011) and mainly on the effectiveness of the programme in conjunction with the available human and financial resources and the valuable contribution of the accredited veterinarians when their status and tasks approved based on the provisions of a new Presidential Decree to be issued.
The year of implementation: 2011

Control (mainland plus 3 islands)
- Testing (Periodic testing in male animals as indicators)
  - Slaughter of animal tested positive
    - Killing of animals tested positive
  - Vaccination
  - Treatment
  - Disposal of products

Eradication (Islands)
- Testing
  - Slaughter of animals tested positive
  - Killing of animals tested positive
  - Extended slaughter or killing
  - Disposal of products

MEASURES FOR THE BRUCELLOSIS CONTROL PROGRAMME

- In areas that the prevalence of the disease is high and the flocks are not easily accessed, due to their geographical distribution or transhumance during the summer months, an emergency mass vaccination of young and adult animals is applied.

- Only female animals are vaccinated. The adult animals are vaccinated the last month of pregnancy, in lactating period and in per mating period. There is priority in the vaccination of adult animals in infected flocks, in flocks of unknown health status and in flocks moving for transhumance.

- In the areas where the emergency vaccination of adult animals will be implemented the officially free flocks can be excluded from the vaccination.

- The Local Veterinary Services will take all the measures to prevent contact of the disease with these flocks.

- This measure aims at the reduction of the incidence of abortions due to brucella in a short time, in order to prevent the contamination of the environment, as well as to increase the animals resistance that are in high risk due to the contact with the infectious agent. It is expected that the emergency vaccination of adults in these flocks will influence the incidence of brucellosis in humans dramatically in a very short time.

- In this area the young female animals, which are kept for reproduction, will be vaccinated at the age of 3-6 months. It is estimated that young animals represent 15% of the animals in each flock.

- The vaccination of male animals is prohibited.

- Taking into account the type of husbandry in the mainland of Greece, the traditions and habits of the consumers, that affect the number of replacements and the movement of flocks to the mountains after the 15th of May, there is a very limited time for the vaccination of a large number of young animals. Under these circumstances the Greek Veterinary Service concentrates to the vaccination of the majority of young animals. However, under ideal conditions, no more than 70% of animals kept for reproduction can be vaccinated.
- The vaccination will be carried out with the REV-1 vaccine, administered by conjunctival route at a dose of 10^7 C.F.U.

- The vaccinated animals will be permanently marked with a tattoo in order to be recognisable in the future. The tattoo will be consisted of V (for vaccination) and the last two digits of the year of vaccination. For the year 2011 the tattoo will be V11.

- After the vaccination, the veterinarian responsible for the program will issue a certificate in two copies. The farmer will keep one copy and the other will remain in the F.V.S. In the certificate the number and age of vaccinated animals as well as the date of vaccination must be reported.

- After the completion of vaccination in an area, a serological survey will be conducted for the assessment of vaccination coverage of the animals. The survey will be based on a two-stage cluster sample of flocks and animals. In each area a random sample of 15% of the flocks would be drawn and from the selected flocks a random sample of 20% of vaccinated animals will be tested.

- In vaccinated flocks all male animals will be tested periodically and the seropositives will be slaughtered.

**ADITIONAL MEASURES FOR THE CONTROL OF BRUCELLOSIS DUE TO B. MELITENIS**

In Greece in some areas there is a number of bovines kept only for meat production grazing on mountains in close contact with sheep and goat flocks.

Recently, in some prefectures the prevalence of brucellosis in these herds has been increased. Under the rearing conditions of these animals, the measures foreseen in the legislation for brucellosis eradication can not be implemented. These animals are in close contact in the pasture with ovines and caprines and move for transhumance for a long period of time, in areas that cannot be reached by veterinarians.

By an epidemiological survey carried out in these herds included microbiological cultures of infected material, isolation of B. melitensis biovars 1, 2 and 3, typed in O.I.E Reference Laboratory for Brucellosis in Waybridge, United Kingdom were recorded.

Taking into account this situation and the fact that the measures for the control and eradication of the disease, as these are mentioned in Council's Directive 91/68, must be implemented in all the animal species susceptible to brucellosis, bovines of the age of 2 month and above reared in herds with close contact to sheep and goat flocks must be vaccinated with REV-1 vaccine in some prefectures.

According to the current knowledge and the bibliography REV-1 vaccine has been proved superior than S-19 for protecting cattle from brucellosis, especially infected by B. melitensis.

The prefectures in which bovine animals will be vaccinated in 2009 cover the shadow area as presented in **MAP II of ANNEX I**.

It must be pointed out that the vaccination will be implemented only in a restricted number of bovine herds, which are in close contact with sheep and goat flocks during transhumance. Also all the relevant measures will be adopted for the vaccinated animals not to come in contact or
enter in herds where vaccination is not implemented. Vaccinated bovine animals can be moved to prefectures that vaccination of bovines is not implemented only for immediate slaughtering.

The vaccination of bovines will not interfere with the implementation of bovine brucellosis eradication program, which will be continued based on test and slaughter policy.

The vaccinated bovine animals will be permanently marked with a tattoo in the right ear. The tattoo will be consisted of V (for vaccination) and the last two digits of the year of vaccination. For the year 2011 the tattoo will be V11. The date of vaccination will be mentioned in the individual card of each animal.

OTHER MEASURES FOR BRUCELLOSIS CONTROL

- In the mainland all the animals before their introduction in a flock must be vaccinated.
- The movement of live animals from the mainland to the islands is prohibited.
- In the area where the eradication programme is implemented all the abortions must be reported in the local E.V.S., which has the responsibility of investigating the reported abortions in order to determine the etiological agent.

MEASURES FOR THE Brucella melitensis ERADICATION PROGRAMME

HEALTH STATUS OF THE FLOCKS

In the islands where eradication programme based on test and slaughter policy is implemented sheep and goat flocks are classified as following:

M1 = Health status unknown

M2 = The animals in the flock have been examined once and the results were negative

M4+ = The animals in the flock have been examined once and at least one animal has been found infected

M3 = Flock free of brucellosis. The flock is classified in this category if the requirements set in Directive 91/68 EEC are fulfilled.

M4 = Flock officially free of brucellosis. The flock is classified in this category if the requirements set in Directive 91/68 EEC are fulfilled.

PROCEDURE FOR THE QUALIFICATION OF A FLOCK AS BRUCELLOSIS OFFICIALLY FREE (M4)

A. In a M1 flock all animals or a representative sample of animals over six months of age can be examined serologically for brucellosis. The sample size is such to give a confidence level of 95% that the disease does not exist if the prevalence is higher than 4%.

- If the results of the test are negative the flock is qualified as M2 category.
In the flocks qualified as M2 category with this procedure, all the animals over 6 months and no longer than 12 months after the previous test.

- If the results of this test are negative the flock is qualified as M4 category.

**If:**

- In the interval between the tests no animals have been introduced in the flock originated from flocks of lower health status due to brucellosis.

- All the abortions are registered and investigated and no abortion due to B.melitensis has been reported in the flock.

- All the animals introduced in the flock originated from brucellosis officially free flocks (M4) that have negative results in two serological tests 6 weeks apart from each other. During this period, the animals must be in isolation and should not come in contact with the other animals of the flock.

- There is no animal vaccinated in the flock for the last two years.

**B.** In case that even a single animal belonging in flocks of M1 or M2 category shows positive reaction in the serological survey, then the flock is qualified as INFECTED and classified in M+ category.

**MEASURES IN INFECTED FLOCKS**

The measures foreseen in infected from brucellosis flocks are the following:

- The flocks must be in isolation and the exit and introduction of animals is prohibited.

- Only movement of animals for immediate slaughter is permitted after a special permission issued from the local F.V.S.

- The infected animals are marked with an O shape punch in the right ear and must be in isolation from the other animals until their slaughter.

- An epidemiological query must be conducted so the source of infection to be determined and the flocks linked with the outbreak to be determined and investigated.

- The aborted foetuses and placenta must be collected and with the appropriate security measures must be sent to the Regional Veterinary Laboratory for bacteriological examination.

- All the animals belonging to species susceptible to brucellosis as well as the dogs must be tested serologically.

- The milk coming from infected animals must be collected in separate vessels and can be used only for animal feeding after the appropriate heat treatment.

- The milk coming from infected animals can be used for cheese production after pasteurisation and only for cheese maturing for a period more than 2 months.

- The manure as well as the bedding must be collected every day in a special place and sprayed with the relevant disinfectant unless it will be covered with soil.

- It is prohibited to spray the manure in the fields earlier than 3 weeks after its collection.

- All material infected or in contact with aborted foetuses must be cleaned and disinfected.

- The aborted foetuses, placenta e.t.c must be destroyed by burning.

- The infected animals must be slaughtered as soon as possible and not later than 30 days from the day that they have been identified as infected. The movement of infected animals to the slaughterhouse is permitted after a special permission issued from the local F.V.S.

- The carcasses of infected animals undergo an inspection and the head and offal must be destroyed.
- After the slaughter of the last infected animal cleaning and disinfection of the premises under the supervision of the local F.V.S is taking place. After the completion of the disinfection procedure the local F.V.S must issue relevant certificate.
- The procedure for the re-qualification of the flock starts after the completion of the cleaning and disinfection procedure.

PROCEDURE FOR THE RE-QUALIFICATION OF AN INFECTED FLOCK

The procedure for the qualification of an infected flock as officially free (M4) is the following:
- All the animals over 6 months of age are subjects of a serological test 60 days after the slaughter of the last infected animal and after the completion of the cleaning and disinfections of the premises.
- If the results of the first test are negative, a second test must be conducted in all the animals over 6 months of age not earlier than 6 months from the first test.
- If the results of the second test are negative also, then the flock is classified in M2 category and all the restriction measures which are in force in infected flocks are withdrawn.
- In the flocks of M2 category a serological test must be conducted in all the animals over 6 months of age not earlier than 6 and not later than 12 months from the previous one.
- If the results of the third test are negative also, then the flock is classified in M4 category if:
- In the interval between the tests no animals have been introduced in the flock originated from flocks of lower health status due to brucellosis,
- All the abortions are registered and investigated and no abortion due to B. melitensis has been reported in the flock.
- All the animals introduced in the flock originated from brucellosis officially free flocks (M4) that have negative results in two serological tests 6 weeks apart from each other. During this period, the animals must be in isolation and should not come in contact with the other animals of the flock.
- There is no animal vaccinated in the flock for the last two years.

MAINTENANCE OF THE BRUCELLOSIS OFFICIALLY FREE STATUS

A sheep or goat flock that situated in an area not qualified as officially free can retain the brucellosis officially free status if:
- All the animals susceptible to brucellosis have been free of clinical symptoms for at least 12 months.
- All the animals introduced in the flock originated from brucellosis officially free flocks (M4) that have negative results in two serological tests 6 weeks apart from each other. During this period, the animals must be in isolation and should not come in contact with the other animals of the flock.
- A sample of animals must be tested annually with negative results.
- In the sample of animals tested in each holding must be included:
  1. All the male animals over 6 months of age.
  2. All the animals that have been introduced in the flock during the year.
  3. 25% of the breeding females producing milk with a minimum of 50 animals per holding.
  4. In case that in the holding are reared 50 females or less then all the animals must be tested.

FREQUENCY OF TESTS IN AN AREA WHICH IS NOT QUALIFIED AS BRUCELLOSIS OFFICIALLY FREE
In an area which is not qualified as brucellosis officially free the frequency of tests in brucellosis officially free holdings can be extended to three years if:
- 99% of sheep and goat flocks are classified as brucellosis officially free and
- the remaining sheep and goat holdings are under strict official control or undergo an eradication program.

**SUSPENSION OF BRUCELLOSIS OFFICIALLY FREE STATUS**

The brucellosis officially free status of a holding can be suspended in case that:
- The animals of the holding came in contact with animals of lower health status due to brucellosis.
- The routine frequency testing foreseen for the maintenance of brucellosis officially free status has not been fulfilled.
- One or more animals are suspected for brucellosis infection after a clinical or laboratory test and they have been slaughtered.

**RAISING OF THE SUSPENSION**

In the holdings with suspended brucellosis officially free status the suspension can be raised:

A) In case that the brucellosis officially free status has been suspended because the measures foreseen in the program have not been implemented or the animals of the holding came in contact with animals of lower health status due to brucellosis.

The suspension of the status is raised if all the animals over 6 months of age are serologically tested with negative results.

B) In case that one or more animals are suspected for brucellosis infection after a clinical or laboratory test and they have been slaughtered.

The suspension of the status is raised if all the animals over 6 months of age are serologically tested with negative results. The first test is conducted 30 days after the slaughter of the suspect animal and after the completion of the cleaning and disinfection of the premises and the second 3 months after the previous one.

**WITHDRAWAL OF BRUCELLOSIS OFFICIALLY FREE STATUS**

- The brucellosis officially free status of a sheep or goat flock is withdrawn and the flock is classified as infected in case that the infection has been confirmed after isolation of brucella, or after an epidemiological investigation that will verify the infection.
- The brucellosis officially free status of a sheep or goat flock is withdrawn if it has been suspended and in the second serological test positive reactions are reported in one or more animals.
- The infected flocks can be re-qualified as brucellosis officially free flocks in accordance with the procedure described.

**QUALIFICATION OF A REGION AS BRUCELLOSIS OFFICIALLY FREE**

A region can be qualified as brucellosis officially free if:
- 99.8% of sheep and goat flocks in the area are qualified as brucellosis officially free
- No case of ovine and caprine brucellosis has been confirmed for at least 5 years.
- The vaccination has been ceased at least 3 years.
- All the abortions are recorded and investigated.
- An ovine and caprine eradication program is in force in the region.
- A system of identification and tracing of the animals is in force in the region so the origin of each animal can be ascertained.

**MAINTENANCE OF BRUCELLOSIS OFFICIALLY FREE STATUS OF A REGION**

In order the brucellosis officially free status of a region to be maintained:
- All the provisions of paragraph 20 must be fulfilled.
- The first year after the qualification of the region as brucellosis officially free:
  1. A random sample of animals in the flocks or in the abattoir must be examined in order to determine with a confidence level of 99% that less than 0.2% of the flocks is infected,
  
  or
  
  2. A random sample of 10% of the existing animals over 6 months of age must be examined in the region.
- The second year after the qualification of the region as brucellosis officially free:
  1. A random sample of animals in the flocks or in the abattoir must be examined in order to determine with a confidence level of 99% that less than 0.2% of the flocks is infected,
  
  or
  
  2. A random sample of 5% of existing animals over 6 months of age must be examined in the region.

**TREATMENT OF INFECTED ANIMALS**

According to the Greek legislation all the actions taken on sheep and goats aiming at the treatment of brucellosis are prohibited.

**LABORATORY ANALYSIS**

- Sera are tested by Rose Bengal agglutination test.
- In order to gain greater sensitivity, a modification of Rose Bengal test will be carried out using 75 μL of serum and 25 μL of antigen, as it is described in the Manual of Standards and Vaccines of OIE.
- In case of seropositive reaction the serum must be examined by a complement fixation test.
- The animal is considered as infected if a positive reaction is equal or more than 20 UCCE.
- If more than 5% of sera from a flock give positive results in Rose Bengal test then all sera must be tested by C.F.T.
- For the evaluation of the new tests approved by OIE for bovine brucellosis a number of sera will be tested with Fluorescence Polarization Assay and Competitive Elisa according to the instructions given in Manual of Standards and Vaccines.
- In the eradication program based on test and slaughter policy all the animals of an infected flock showing a positive reaction to any test performed would be considered as infected and they will be slaughtered and compensated.

**DEPOPULATION**
- In case that in a flock equal or more than 50% of the animals are found as seropositives the flock will be depopulated.
- In case that in the first serological examination, 25% to 50% of the animals are found as infected and in the second serological examination 20% of the remaining animals are also found as seropositives then the flock will also be depopulated.
- In both cases the depopulation will be carried out after the suggestion of a committee and the permission of the Central Veterinary Service in the Ministry of Rural Development and Food. The committee is constituted from the District Veterinary Officer, a veterinarian from the F.V.S of the area and an epidemiologist appointed by the Central Veterinary Service in the Ministry of Rural Development and Food. The committee for its suggestion must take into account the epidemiology of the disease, the health status of neighbouring flocks, the geography of the area, the population density in the area, the transhumance of the flocks and all the specific features of the area. All the animals that are going to be slaughtered will be compensated according to the legal basis.
- The measure of depopulation can be applied in extend In the areas where the eradication programme is implemented if the infected flock, in accordance to the in-flock prevalence, is a potential risk for the area and the neighbouring officially free flocks. In this case also the depopulation of the flock will be implemented under the same procedure and after the suggestion of a committee and the permission of the Central Veterinary Service in the Ministry of Rural Development and Food.

RESTOCKING

- After the depopulation of a flock and before restocking with new animals all the premises, the equipment and material that have been in contact with infected animals must be cleaned and disinfected in accordance with the instructions and under the supervision of the F.V.S of the area.
- The restocking can be materialized at least 60 days after the depopulation of the flock. This period can be extended according to the local conditions in each area.
- The animals reconstituting the depopulated flock must originate from flocks free or officially free from brucellosis.
- In the area where vaccination is not implemented the animals must originate only from flocks officially free from brucellosis.
- The animals reconstituting the depopulated flock must be serologically tested with negative results 30 days before their movement in the new flock or 30 days after the reconstitution of the new flock.
- During the period of the 30 days the animals must be in isolation and should not come in contact with the other animals of the flock of origin or with animals belonging to other flocks.

COMPULSORY SLAUGHTER

- The compulsory slaughter of infected animals is carried out as soon as possible under an official supervision.
- The slaughter must take place within 30 days after the official notification of the owner.
- The infected animals must be slaughtered in a predetermined slaughterhouse after the permission of the F.V.S. and the issue of a movement certificate.
- The head and offal of infected animals must be seized and destroyed.

COMPENSATION OF SLAUGHTERED ANIMALS
• The compensation of the animals, which will be slaughtered in the implementation of this programme, must be paid within 90 days after the slaughter of the animals.
• Before the slaughter of the animals, a committee will evaluate their life price and will propose the amount of compensation. A Veterinarian of the District Veterinary Service, an Officer of the District Animal Production Service and a representative of the farmers co-operative constitute the committee.
• The amount of compensation in no case can be higher than the price of the animal in the market.
• According to a bi-ministerial decision published each year the amount of compensation is specifically determined for each animal category.
• In case that some of the measures foreseen in the program are not implemented by the farmer, compensation reduced till 50% can be paid to the farmer.

DATA COLLECTION AND ANALYSIS

Every month the Department of Animal Health of each District Veterinary Service will collect the data from the Field Veterinary Stations of the area and will feed the software in use.

With the aid of the software reports for the implementation of the program and the epidemiological situation of the area can be produced. All the data are sent to the Department of Zoonoses in the Ministry of Rural Development and Food and in the National Reference Laboratory for Brucellosis in Larissa.

INFORMATION ABOUT THE PROGRESS OF THE PROGRAMME

The Department of Zoonoses of the Animal Health Directorate in the Ministry of Rural Development and Food will organize meetings in each prefecture at least once a year with the staff of the Regional Veterinary Services to exchange information about the progress of the program and the evaluation of the measures foreseen for the efficient implementation of the program. During these meetings, the local problems will also be discussed so the optimal solution to be found.

In each region printed material with information about the disease will be distributed to the farmers. The consumers will be informed about brucellosis through the local TV and radio stations.

EXCHANGE OF INFORMATION

The General Directorate of Veterinary Services in the Ministry of Rural Development and Food provides all the information and prepares a regular and full report to the Commission of the E.U. as well as to the Task Force Subgroup about the progress of the ovine and caprine brucellosis control and eradication programme in compliance to the E.U. legislation.

5. BENEFITS OF THE PROGRAMME

- Public Health significance – Protection of Public Health
- Prophylaxis of farmer's health
- Increase of animal productivity
- Economical benefits at farm level in relation to animal health status

6. DATA ON THE EPIDEMIOLOGICAL DISEASE EVOLUTION. (the last five years)
Please be informed about all the attached electronic data files (2009 Programme Data and Final Technical & Financial Report included) were submitted to the Commission along with this Programme text report and sent to the mailbox address SANCO-VET-PROG@ec.europa.eu. Although previously submitted, Electronic data sets from the past 5 years of approved by the EU programme are stored and available, they cannot be resent in one email to the Commission Services due to the large volume. These files can be forwarded in separate emails and resent to the Commission Services for confirmation purposes upon request immediately.

7. REVISED TARGETS

OBJECTIVES AND TARGETS OF THE SUBMITTED PROGRAMME


7.1 REVISED TARGETS FOR THE BRUCELLA MELITENSIIS CONTROL PROGRAMME

The target of the programme in the mainland is the total number of adult animals reared in the mainland to be vaccinated at the end of 2011. In accordance with the results of the implementation of the programme from the previous years, the 80% of the animals reared in the mainland have already been vaccinated at the end of the year 2009. It is estimated that at the end of 2011: given a) the current situation and the several technical and organisational difficulties b) the new framework of the political commitment to increase the stuff (8-month contract) for implementing the BM programme during the year 2011 and c) the new administrative structure as foreseen by the “Kalikraties” programme (New state Law), the vaccinated coverage rate is expected to exceed the 90% of the average animal population.

The revised targets for the mass vaccination programme per each prefecture is presented in Tables 7.3.1 of ANNEX I (attached file: 2011 TARGETS REV1 VACCINATION BM PROGRAMME.xls).

7.2 REVISED TARGETS FOR THE BRUCELLA MELITENSIIS ERADICATION PROGRAMME

The revised targets following the above-mentioned rationale (point 7.1) for the area where the eradication programme will be implemented are presented in Tables 7.1.2.1, 7.1.2.2., 7.2 attached in ANNEX I (related file attached: 2011 TARGETS ERADICATION BM.xls).

8. COST OF THE 2011 SUBMITTED REVISED PROGRAMME

COST OF BRUCELLOSIS CONTROL AND ERADICATION PROGRAMME FOR 2011

Based on the new revised 2011 targets, the estimated detailed cost of analysis for the 2011 Brucellosis control and eradication programme is given in Table 8 of Annex I (file attached: DETAILED COST ANALYSIS B MEL 2011.xls)
The total cost of the programme is estimated to be 2,048,845 EURO. The Greek authorities are requesting to obtain the 50% of the financial contribution from the European Commission, which reflects to the amount of 1,024,922 EURO.
ANNEX I

MAP 1: OVINE AND CAPRINE CONTROL AND ERADICATION PROGRAMME FOR 2011

Grey area where mass vaccination will be implemented.
MAP II - COUNTRY PREFECTURES IN WHICH VACCINATION OF BOVINES WILL BE IMPLEMENTED DURING 2011.
### Table 7.1.1: Greece

**Targets on Diagnostic Tests**

**Reporting Year: 2011**

**Disease:** Ovine and Caprine Brucellosis  
**Animal Species:** Sheep and Goats

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<th>Region</th>
<th>Type of Test</th>
<th>Target Population</th>
<th>Type of Sample</th>
<th>Objective</th>
<th>Number of Planned Tests</th>
</tr>
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<td>Breeding Animals</td>
<td>Blood Sample</td>
<td>Eradication &amp; Control Programme</td>
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<td>Blood Serum</td>
<td>Eradication &amp; Control Programme</td>
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**Total (SeroLOGY) = 189,600**
## ANNEX I

**Member State: GREECE**

### TABLE 7.1.2.1

**DATA ON HERDS**

**REVISED**

### 2011 Targets on the testing of Herds/Flocks

**2011 TARGETS ON ERADICATION PROGRAMME IN ISLANDS (ERADICATION ZONE)**

**Disease:** Ovine and caprine Brucellosis  
**Species:** Ovines and caprines

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<th>NOMOS</th>
<th>Total Number of herds</th>
<th>Total Number of herds under the programme</th>
<th>No. of herds expected to be checked</th>
<th>No. of expected positive herds</th>
<th>No. of expected new positive herds</th>
<th>% positive herds expected to be depopulated</th>
<th>% positive herd coverage</th>
<th>% positive herd prevalence</th>
<th>% positive herd incidence</th>
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<td>17.76</td>
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### ANNEX I

**Member State: GREECE**

#### 2011 Targets on the testing of animals

**Table 7.122**

<table>
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<tr>
<th></th>
<th>Total Number of animals</th>
<th>Total Number of animals under the programme</th>
<th>No. of animals expected to be tested</th>
<th>No. of expected positive animals</th>
<th>No. of animals with positive result expected to be slaughtered or culled</th>
<th>Total number of animals expected to be slaughtered</th>
<th>Expected % coverage at animal level</th>
<th>% positive animals</th>
<th>Expected animal prevalence</th>
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<td>360</td>
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### TARGETS ON QUALIFICATION OF HERDS/FLOCKS AND ANIMALS

**Disease:** Ovine and caprine Brucellosis  
**Species:** Ovine and caprine

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<thead>
<tr>
<th>NOMOS</th>
<th>Total number of herds and animals under the programme</th>
<th>Expected Unknown</th>
<th>Expected Not free/not officially free</th>
<th>Expected Officially free suspended</th>
<th>Expected Officially free</th>
</tr>
</thead>
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<td>Herds</td>
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<td>Herds</td>
<td>Animals</td>
<td>Herds</td>
<td>Animals</td>
</tr>
<tr>
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<td>-------------------------------------------------------</td>
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<td>DODEKANISA</td>
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## 7.3.1 Targets on vaccination programmes

**Year: 2011**

### Disease: Ovine & Caprine Brucellosis

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<th>Region</th>
<th>Total number of flocks</th>
<th>Total number of animals</th>
<th>Number of flocks in vaccination programme</th>
<th>Number of flocks expected to be vaccinated</th>
<th>Number of animals expected to be vaccinated</th>
<th>Number of doses of vaccine expected to be administered</th>
<th>Number of adults expected to be vaccinated</th>
<th>Number of young animals expected to be vaccinated</th>
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# 7.3.1 Targets on vaccination programme

**Animal species:** Semi-wild bovina  
**Disease:** Brucellosis (under the B. Melitensis programme)

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