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Summary report for the first year

(2000/2001)

of the subgroup for bovine brucellosis of the

Task Force for monitoring disease eradication in the Member States

(As created in accordance with

Action N° 29 of the White Paper on Food Safety)

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CONTENT

I. Creation of the Task Force

I.1 Background

With the "WHITE PAPER ON FOOD SAFETY" (DOC/00/1-COM/99/719) measures are proposed aiming at a more co-ordinated and integrated approach to the organisation of food safety with a view to achieving the highest possible level of health protection. It is recognised that animal health is an important factor in food safety and it is stated that:

"Existing eradication and disease control programmes, such as those for tuberculosis and brucellosis, should be continued and where possible re-inforced; in particular, in those Member States whose status with regard to these diseases remains problematic. Particular attention should be devoted to the control of hydatidosis and Brucella melitensis in the Mediterranean regions."

A number of actions are proposed to achieve this aim in the Annex of the White Paper. In the animal health sector (Action N° 29) an increase of budgetary allocation for actions provided for in Council Decision 90/424/EEC on expenditure in the veterinary field is foreseen with the objectives:

1. To enable actions necessary to improve animal disease eradication (brucellosis, tuberculosis etc.)

2. To create a task force for monitoring disease eradication in the Member States.

The task force as foreseen in the White Paper in Food Safety has been created in a meeting held on 15 March 2000 in Brussels.

I.2 Structure, mode of operation and management of the Task Force

The Task Force has been created in accordance with an action plan proposed by the Commission and agreed by all Member States (Document SANCO/738/2000 Rev.1). This action plan includes a description of the objectives, the structure, the mode of operation and the management of the Task Force.

The objectives of the Task Force are in particular

(1) To improve animal disease eradication and

(2) To improve the cost-benefit-ratio of animal disease eradication programmes co-financed by the Community.

The Task Force comprises of all Member States and of the Commission. Meetings are chaired by the Commission and take place in Brussels. Points on the agenda of the meetings shall be aspects relating to all or most programmes. These would be for example the standardisation of programmes and measures and the standardisation of evaluation methods such as reports or epidemiological investigations. In each meeting of the Task Force the programmes concerning one or two diseases shall be discussed in detail.

For some diseases (sheep and goat brucellosis, bovine brucellosis, bovine tuberculosis) subgroups of the Task Force have been established. The objectives of these subgroups are to support the Task Force and to support the Member States in their attempts to develop and to implement optimal disease eradication measures.

Each subgroup comprises of those Member States having a programme approved for the respective disease plus two to three other Member States and the Commission. The members of the subgroups have been nominated personally. A list of the members nominated for the subgroup for bovine brucellosis is given in Annex I.

Meetings of the subgroups are being chaired by one of the Member States and take place on the spot in Member States with approved programmes.

II. Meetings of the subgroup for bovine brucellosis of the Task Force

The meetings of the subgroup for bovine brucellosis of the Task Force took place as follows:

Date	Location	Main subject
17 April 2000	Brussels/ Belgium	Current situation of bov. bruc. in the MS with approved programmes Possibilities to diagnose the disease Intervals of regular testing Causes for extraordinary tests Vaccination against bov. bruc.
14/15 June 2000	Terceira (Azores) / Portugal	Evaluation of the programmes of the MS with special emphasis on the Portuguese programme
09-11 Oct. 2000	Thessaloniki / Greece	Evaluation of the Greek programme Discussion of a model for epidemiological investigation in infected herds and flocks Discussion of compensation rules
15-17 Jan. 2001	Palermo (Sicily) / Italy	Evaluation of the Italian programme with special emphasis on the situation in Sicily
21 March 2001	Brussels/ Belgium	Review of the year Discus. of definitions concerning bov. bruc.

Due to budgetary restrictions the third and the fourth meeting of the bovine brucellosis subgroup was organised together with the sheep and goat brucellosis subgroup of the Task Force. Many aspects of bovine and of sheep and goat brucellosis are similar and can be discussed together. In these meetings one day was dedicated to each of the diseases and on the third day aspects concerning both diseases were discussed.

As agreed with the action plan for the creation of the Task Force most of the meetings took place in MS with co-financed programmes and in areas with particular problems. This allowed contact and discussions with local veterinarians and producers and included limited visits to relevant points of interest for the programme (farms, laboratories, local veterinary services, etc).

For each meeting a detailed report has been prepared. Copies of these reports are available in EU Directorate General Health and Consumer Protection, Unit E.2.

III. Results of the meetings

III.1 General remarks and overview over the disease situation

The agenda of the meetings included the evaluation of one or more programmes of the MS, the discussion of some general technical aspects and the discussion of financial aspects.

The evaluation was based in particular on

- The approved programmes (see the table III.1(1) below),
- Community and national legislation,
- Reports submitted by the MS in the context of the programmes,
- Reports of the Food and Veterinary Office of the Commission (FVO) and
- Information received during the meetings from the members of the subgroup.

Table III.1(2): Commission document numbers of bovine brucellosis programmes approved for co-financing by the Community in 2000 and in 2001

MS	2000	2001
France	XXVI/3297/1999	SANCO/47/2001
Greece	XXVI/3295/1999	SANCO/45/2001
Ireland	XXVI/3298/1999	SANCO/48/2001
Italy	XXVI/3299/1999	SANCO/49/2001
Portugal	XXVI/3303/1999	SANCO/52/2001
Spain	XXVI/3296/1999	SANCO/46/2001
UK	XXVI/3305/1999	SANCO/56/2001

The presentations and discussions in the meetings focused in particular on the results of the control programme in each country, based on the seroprevalence in herds and animals. Special reference was made to problem areas, to the situation of human brucellosis, and to measures of the programme including investigation of the origin of infection in herds, information on the diagnostic tests used, on testing protocols, vaccination, etc.

The disease situation in the MS with approved programmes is given in table III.1(2) for the years 1998 and 1999.

Table III.1(2) - Prevalence of bovine brucellosis in herds and animals during the years 1998 and 1999, in countries of the EU with approved eradication programmes

MEMBER STATE	HERDS			ANIMALS		
	% infected		Difference	% Infected		Difference
	1998	1999		1998	1999	
Portugal a) Mainland b) Azores	 0.75 NA	 0.75 3.36	 0.00 NA	 0.28 NA	 0.35 0.75	 + 0.07 NA
France	0.07	NA	NA	0.006	NA	NA
Greece	10.50	4.99	-5.50	4.40	7.90	+3.50
Italy	1.50	1.60	+ 0.10	0.40	0.40	0.00
Spain	2.00	1.40	-0.60	0.40	0.30	-0.10
UK/ N.-Ireland	0.10	0.30	+0.20	NA	NA	NA
Ireland	0.23	0.16	-0.07	NA	NA	NA

NA – Not available

III.2 Aspects relating to all programmes

III.2.1 Diagnosis of bovine brucellosis

Testing procedures and requirements for bovine brucellosis as well as testing regimes vary considerably between the Member States. The subgroup therefore collected information on the strategies in the different MS and recommended procedures to be followed.

At present the Member States use the tests listed in IV.8.2(1).

Table III.2.1(1): Tests currently used by the Member States for screening and for confirmation of bovine brucellosis.

Member State	Screening	Confirmation
Portugal	RBT (mainland) MRT (Azores)	CFT RBT
France	surveillance : RBT or MRT/ ELISA (milk)	CFT RBT
	Trade: RBT	CFT /ELISA (serum)
	confirmation of outbreaks:	RBT, CFT, (Skin test), Bacteriology
	Eradication: RBT	ELISA (serum)
Greece	RBT ELISA (milk)	CFT/ ELISA (serum) RBT
Italy	RBT	CFT
Spain	RBT MRT	CFT ELISA
UK/ N.-Ireland	SAT ELISA (serum) MRT	CFT ELISA (milk)
Ireland	(SAT) ELISA (serum) (MRT) ELISA (milk)	CFT ELISA (serum)

The most frequently followed routine protocols include the screening done by the RBT followed by the confirmation by the CFT; in other countries the SAT and ELISA are used for screening and confirmation is done by CFT. In the milk, in most countries MRT is used for screening and ELISA for confirmation but in some countries only ELISA is used in the milk. In some countries tests like the allergic skin test (Brucellin) are also used.

III.2.2 General recommendations for brucellosis testing:

There is a need for an evaluation and introduction of new tests, for harmonisation with the aim to use the same methods in all MS, for validation of tests, for proficiency testing and for accreditation of laboratories. To achieve this, it is considered of outmost importance to urgently designate a Community Reference Laboratory, which would assure testing quality in a network including the national reference laboratories in all Member States.

Post-movement animal testing should be a rule and pre-movement testing should be required if animals come from infected areas.

It is considered important to conduct typing of the isolated *Brucella* strains by the national reference laboratories and to keep serum and culture banks for epidemiological purposes in particular in mixed herds with small and large ruminants and for future validation of the testing done in the laboratories.

Free and infected regions should be defined within the Member States, taking into account their specificity. The boundaries for these areas should take into account the prevalence and the incidence of the disease, the characteristics of regional transhumance and trading patterns and the socio-economical and geographical specificities of these areas. In these regions specific programmes should be defined for the monitoring, control and eradication of brucellosis and the measures taken should in particular depend on the level of infection and epidemiological risk.

III.2.3 Specific recommendations regarding tests to be used and testing intervals:

A. Free herds in low-risk areas

In dairy herds, the MRT or ELISA should be used as a bulk screening test for brucellosis.

The Member states reported that the MRT is performed with periodicity ranging from a monthly basis to four times a year. The interval should be decided in particular upon the epidemiological situation and on the basis of tests additionally performed. MRT positive results should be confirmed with milk ELISA. If the positivity persists individual serological testing in the animals of the herd should be performed.

In beef herds, on top of the normal individual testing in the herd, bulk serological testing done by blood sampling at slaughterhouses is also recommended, if systematic individual surveillance of all herds does not show the desired effect. The tracing back to the herd of origin could be made using the EU established cattle identification and movement control systems.

Individual sampling of herds with a brucellosis free status should be performed for confirmation on all reproductive stock on an annual basis.

B. Free herds in risk areas and in infected herds

If a sero-positive animal is detected in a herd it should be marked and isolated from the rest of the herd and slaughtered as soon as possible but at least within 30 days from the date of notification of the result to the farmer. If the herd has a free status this must immediately be suspended and the herd quarantined until further testing is done.

Testing should start within the first month, and not only after removal of animals, and then a monthly or 6 weeks control should be continued until two negative results are obtained. After that, a 6 months control period would be recommended up to two negative samplings, and then annual testing.

In the infected herds it is envisaged that a panel of tests including RBT, CFT, ELISA and skin tests to be defined for the specific situations, would be used. In these cases each animal, which is positive to any of the tests, should be slaughtered. Bacteriology and skin tests are effective tools to rapidly identify herds as infected.

Due to the risk of uterine transmission of Brucella the calves born from infected dams should be slaughtered as well. Positive pregnant animals should be slaughtered as quickly as possible and before giving birth because of the risk of spreading *Brucella* during calving.

These recommendations can be summarised as shown in table IV.8.2(2).

Table III.2.3(2): Recommendations for testing for bovine brucellosis in free and in infected herds

A – Testing methods

Herd Type	**screening**	**confirmation**	**further confirm.**
Dairy	MRT	ELISA (milk)	serol. testing
Beef	Systematic exhaustive herd testing or bulk serol. testing – ELISA & RBT (in farms or in slaughterhouses)	Serol. testing of reproductive stock (CFT, ELISA)	

B- Testing regime for free herds

- Free herds in low-risk areas

Dairy Herds: MRT/ELISA done on a 3 months basis and individual serological testing once a year.

Beef Herds: Individual serological testing of the reproductive stock once a year. Rates for random sampling at slaughterhouses to be defined according to the specific situation.

- Free herds in risk areas

Dairy Herds: MRT done on a monthly basis and individual serological testing twice a year.

Beef Herds: Individual serological testing of the reproductive stock should be performed twice a year. Rates for random sampling at slaughterhouses to be defined according to the specific situation taking into account the prevalence and incidence of infection in the area and the commercialisation and management systems.

C- Testing regime for infected herds

- Testing after positive findings

  - 1st re-testing: Within I months after confirmation of the result;

  - 2nd re-testing period: Tests in 4-6 weeks intervals until 2 negative results are obtained;

  - 3rd re-testing period: 2 tests in 5-7 month intervals each;

  - Qualification of the herd as B3 or B4 according to its vaccination status after two consecutive negative tests with 3 to 12 months interval;

  - Positive results at any stage => re-start at 1st re-testing.

III.2.4 Recommendations concerning vaccination in particular with regard to circumstances to introduce vaccination and the vaccine to be used:

Vaccination should be used in high prevalence areas/ herds to reduce the incidence to levels in which an eradication programme based on a test and slaughter policy can be initiated.

Considering the present knowledge the vaccine of choice is B19. Care should be taken to vaccinate only the female animals with ages between the 3-6 months to avoid long term false positive serological reactors.

III.2.5 General recommendations:

The Directives refer to measures and criteria for infected herds without clearly defining what is an infected herd. It is considered necessary to lay down such definitions so that uniform criteria are being used in the Member States.

Several periods of time (1 to 6 months) are defined for re-populating holdings after stamping out herds in the MS. This is linked with what is expected to be the survival of *Brucella* in the contaminated pastures and slurry. It was considered necessary to carry out scientific studies to determine the risk of infection under the different conditions.

The benefits of having the sub-group meetings in the Member States with approved programmes and preferably in problematic areas was shown. The wish to carry-on with the meetings on the spot as previously agreed on was re-enforced.

III.2.6 Summary of recommendations and conclusions

In the meetings of the subgroup for bovine brucellosis a number of conclusions and recommendations were agreed upon. They are partly general points concerning all programmes and partly relate to special diseases. These recommendations and conclusions are in particular the following:

1. Implementation of a network of national reference laboratories and creation of a Community Reference Laboratory to coordinate the diagnosis for brucellosis in the Member Countries.

2. Need for harmonization and for validation of tests, for proficiency testing and for accreditation of the laboratories in the Member States.

3. For epidemiological purposes it is necessary to increase efforts to isolate *Brucella*, to type the strains isolated and to keep serum and culture banks.

4. Within the Member States, free and infected regions should be defined taking into account their specificities and eradication measures should be defined according to the regional disease situation. These regions should not be too small.

5. Definition of testing procedures, including the tests to be used for screening and for confirmation of positive results and the testing intervals in dairy and beef herds. Different scenarios including procedures in brucellosis-free holdings, in low-risk and risk areas and in infected holdings were considered.

6. Seropositive female animals and their calves are regarded as particularly dangerous in the spread of infection and should, therefore, be slaughtered immediatelly after positive diagnosis.

7. In an infected herd, every animal positive to RBT, serum ELISA or other approved serological screening test should be considered as infected and therefore slaughtered, without waiting for results of confirmatory tests.

8. Certification for testing regarding animal movement should be harmonized using the indirect ELISA for serology. Post-movement animal testing should be a rule and pre- and post--movement testing should be required if animals come from infected areas.

9. The use of B19 vaccine is recommended in high prevalence areas/ herds to reduce the incidence to levels in which an eradication programme, based on a test and slaughter policy, can be initiated.

10. Cost-effective research areas were identified regarding the validation of testing and the implementation of new tests and the study of new vaccines and vaccination regimes.

11. Future meetings of the sub-group should preferentially take place in regions with higher brucellosis incidence / prevalence in the host countries and to allow the interaction of the members with the local realities.

III.2.7 Compensation

Payment and level of compensation is a crucial aspect in the success of a disease eradication or control programme. Low levels of compensation as well as late payments will reduce the co-operation of the farmers. High levels of compensation, on the other hand, constitute an incentive to the farmer to keep the disease or even to introduce it into his/ her herd.

The subgroup therefore started to collect information on the different rules for compensation payments in the Member States. The objective is to propose harmonised rules to be followed in the Community.

In the Member States with a bovine brucellosis programme the rules differ substantially:

Greece

The producers and dealers can be fined in up to 10,000 EUR if it they do not accomplish sanitary regulations.

If seropositive animals are diagnosed the producer has to organise their slaughter within less than 30 days. If this is not possible he receives only 50% of the compensatory payment. The values for compensation are calculated depending on the age and breed of the cow (table IV.8.1(1)):

Table III.2.7(1): Values for compensation in the Greek programme

Age	Breed	Compensation (EUR)*
Adult	Exotic	900
	Crossbred	750
	Local	600
Heifer	Exotic	500
	Crossbred	400
	Local	300
Calves		??

* These values are much higher than the 178 EUR presented by the Commission in the meeting of the Task Force on 29/05/2000 as the average price paid during 1998 per animal (Source: claim for refunding 98).

The group considers that this needs to be clarified at a later stage.

Ireland

The compensation, which has been based on a grant system is to be changed in the near future for a full valuation based on the market value of the different categories of cattle, in 2001.

Portugal

In the Azores a new compensatory payment regime was established for the year 2001 taking into account the age of the animals by establishing classes from 1 month up to more than 6 years. The market value of bovine is higher than in the mainland (731 EUR and 1250 EUR, respectively- Claim for refunding, 1998), because of the high genetic value of the Azores bovines.

The group concluded that the real price of an animal should be connected to market conditions so that neither underreporting happens nor *Brucellosis* becomes profitable.

Spain

The values for compensation of bovine are defined for age and do not take into account the breed.

The values for the compensation paid to the farmers range from 102 EUR to 362 EUR (Orden 7593 de 19 Marzo, 1993). However, according to the data presented to the Commission for 1998 an average of 373 EUR had been paid per bovine.

The participants recommend that the breed is also considered in the determination of the compensation as market value can be considerably different for different breeds.

United Kingdom

Compensation rules foresee 75 % of the market value for positive animals 100 % of the market value for negative in-contact animals.

III.3 France

A. Epidemiological situation

Epidemiological data presented on the French bovine brucellosis programme show that France is in a very favourable condition to achieve eradication of bovine brucellosis in the short term:

- Prevalence in herds dropped from 0.93 % in 1986 to 0.05 % in 1999;
- Prevalence in animals dropped from 0.15 % in 1987 to 0.004 % in 1999;
- Annual incidence dropped from 0.50 % in 1986 to 0.04 % in 1999;
- the number of abortions due to *Brucella* has decreased from more than 1000 in the year 1987 to 29 in 1999 (which accounts for 0.06% of all 48.000 reported abortions in 1999).

Regarding the French regions, the highest herd prevalence (rates greater than 2 %) were found in some southern departments (mountain areas with transhumance) and especially on the island of Corsica.

B. Control strategy

The control strategy of bovine brucellosis in France is based on the protection and certification of free herds (A) and on the detection (B) and clearance (C) of infected herds.

B.1 Detection of infected herds

Abortion is compulsory notifiable and abortion material must be sent to bacteriological diagnosis. Farmers reporting abortion receive the visit of a private veterinarian and the producer is not charged for the investigations.

Regular testing of herds include a yearly serological tests in beef cattle (RBT) and monthly or quarterly bulk milk-ring-tests (MRT) in dairy cattle.

Since 1993, brucellin skin test is being used in case of suspected false positive reactor animals were detected in herds, the started to be used in France. A sero-positive animal is suspected as false positive if it is found in herds with a prevalence lower than 2 % and with a favourable epidemiological history. Laboratory isolation of *Brucella* may be attempted in these animals, but this is not compulsory.

Sero-positive animals are considered as infected if they are detected in herds with prevalence higher than 2 % or with an unfavourable epidemiological history of the herd.

B.2 Clearance of infected herds

Measures to clear an infected herd include the slaughter of infected animals and total depopulation of the herd if the infection rate is higher than 5 %, if *Brucella* has been isolated or in case of an unfavourable epidemiological risk assessment.

In 1999, *Brucella* has been isolated in 29 abortions of which 27 were due to *B. abortus* (mainly biovar 3) and 2 due to *B. melitensis* (biovars 1 and 3). In the same year animals were slaughtered from 600 herds due to brucellosis and 44% of these herds were totally slaughtered.

B.3 Certification and protection of herds

Herds are classified as officially brucellosis free (OBF) after two negative Rose-Bengal-Tests (RBT), which have to be at least six months apart.

Only animals from OBF herds can be introduced in other herds and they are subject to a post-movement test using RBT for screening and complement-fixation-test (CFT) or ELISA (serum) for confirmation of positive or doubtful results.

C. Recommendations made to the French programme

The programme should include a clear definition of infected animals and herds as there exist several categories of animals called seropositive, false-positive, brucellin positive, or positive with isolation of *Brucella.*

Some participants recommended, in connection with diagnostic techniques, that isolation of *Brucella* should be attempted in all sero-positive animals.

III.4 Greece

A. Areas included in the programmes

The Greek programme submitted to the Commission and approved for 1997 included 27 prefectures (Nomos) from a total of 52. These were reduced to four in 1998; increased to eight in 1999 and 2000 and increased again to nine in 2001. However not all Nomos covered by the 2000 programme were also included in the 2001 programme and vice versa (see table III.3.1(1)).

In 2000, in five of the eight Nomos under the programme vaccination against brucellosis in cattle has been started. Investigations had revealed that these Nomos were highly infected with *B. melitensis* due to the problem in sheep and goats. Some of these Nomos were excluded from the bovine brucellosis programme in 2001 and included into the one for sheep and goat brucellosis because the vaccination of bovines is regarded as an additional measure for the control of *B. melitensis*.

Table III.3.1(1): Nomos covered by the programmes 1997 to 2001

Nomos	1997[1]	1998	1999	2000	2001
Athina	-	-	-	-	X
Attiki	X	X	X	X	X
Etholoakarnania	X	-	X	X	-
Florina	X	-	-	-	X
Fokida	X	-	X	X[2]	X[2]
Imathia	X	-	-	-	X
Ioannina	X	-	-	-	-[2]
Kilkis	X	-	-	-	X
Larissa	X	X	X	X[2]	X[2]
Pella	X	-	-	-	X
Preve	-	-	X	X	-
Preveza	X	-	-	-	-[2]
Thesprotia	X	-	X	X[2]	-[2]
Thessaloniki	X	X	X	X[2]	X[2]
Trikala	X	X	X	X[2]	-[2]

In the Nomos not included in the programme, Greece carries out a bovine brucellosis control programme as well but does not request co-financing from the Community.

B. Overview over the disease situation

Comparing the data of the years 1998 and 1999 a decrease of 5% in the disease prevalence in herds and an increase of 3.5% in the number of positive animals can observed (whole territory of Greece).

This, however, cannot be considered as the real disease situation because only 15% of the Nomos were surveyed during 1999. In some Nomos the herds are tested only once every 2 years because Greece regards them as officially free from brucellosis. These Nomos are not included in the co-financed programme. In the investigated areas the herd prevalence was as high as 50.5 % with up to 21.4 % of positive reactors.

[1] In 1997 another 14 Nomos, not mentioned here, were included in the programme.

[2] Nomos, where vaccination of cattle is being carried out.

Furthermore, in 1999 only 41% of the total number of farms (12.912 out of 31.502) were investigated (in some Nomos only 21 % of the herds; investigation was also focused on the most infected areas) and only 24.8 % of the susceptible animal population (161.225 animals) were checked. According to the Greek member of the subgroup, this low efficiency is due to a shortage of official staff and of logistical means. Only the official services execute the fieldwork. These teams are overloaded with work, as the field campaigns are seasonal either for the *B. melitensis* programme (end of January to May) or as for the *B. abortus* programme (June to January).

An animal movement database, as foreseen by the Directive 97/12/EC, has not been implemented.

C. Measures included in the programme

Sanitary classification of herds

According to the data presented for 1999, some herds maintain their OBF status even if they are not checked during the year (in the eight Nomos under the programme there are 27,220 herd classified as B4 but only 12,912 had been investigated).

Table 1. - Sanitary Classification of Bovine Herds regarding the Brucellosis Status

Classification	**Description**
B+	Herd infected
B1	Herd with unknown status
B2	Herds with 1 negative test
B3	Free Herds (with vaccinated animals)
B4	Officially Free Herds

Sanitary classification of areas

The classification has not been feasible for some areas because there is no data available that all the herds belong to OBF status for the last five years.

The participants consider that it is necessary to implement a classification of areas (See rec.5.4 of the meeting on 17/04/2000).

Movement of animals

Movement of bovine among herds is conditioned by the sanitary status of the herds:

From B+ and B1 Herds – only allowed the movement for immediate slaughter with authorisation of the official services

From B2 Herds – only allowed to another B2 herds and dependent on pre-movement serological sampling.

From B3 Herds – only allowed to another B3 herd within the area of the same Nomos.

From B4 Herds – only allowed to herds of the same status.

The participants consider that only animals from B3 and B4 herds should be allowed to move to another herds with the same sanitary status and should be subjected to testing (Rec. 5.8 of the meeting on 17/04/2000)

Tests used

The dignostic tests used are milk ELISA for B4 herds and, for herds of other status, RBT it used for screening and CFT and ELISA in serum for the confirmation of positive findings. Characterisation of isolated brucella was not done.

Sanitary slaughter

When sero-positive animals are diagnosed the producer shall organise their slaughter within less than 30 days. If this is not possible he receives only 50% of the compensatory payment.

In 1999 these compensation penalties did not improve the farmers attitude to speed up slaughtering since, at the end of the year, 55.7% (2709 bovine) of the positive animals had not been slaughtered (Table 7 of Annex 6). In some other cases (Table 7 of Annex 6) the number of animals slaughtered is more than the number of positives. This can probably by explained in some of the situations by the stamping out of a herd. This is considered if more than 50% of the animals are sero-positive or if in 2 consecutive tests more than 20% of the animals in a herd were positive.

The participants considered that it is necessary to make an in depth study of the data regarding the sanitary slaughter of animals. Later information from Dr Minas informed that his data was incorrect and that the table with the revised data will be supplied.

Time for payments

The official services pay to the producer 70% of the due amount in less than 90 days and the remaining 30% are paid when re-population is done. This seems to be a good incentive for the producer to eliminate brucellosis from his herd and to gain a free status. It should be linked to the authorisation of movement only from B3 and B4 herds.

Transport for sanitary slaughter

The transport and slaughter of the animal is the responsibility of the producer and not of the official services. As the national animal database system allowing the tracing of animals is not implemented the veterinarian in the slaughterhouse of destination issues a certificate of slaughter that is presented by the producer to the official services for the payment of the compensation. The producer is also entitled to receive the meat value of the animals slaughtered.

The brucellosis problem in these areas is due mostly to the meat producing local bovine breeds, which graze together and go for transhumance with sheep and goat herds. In the milk herds, however, the prevalence is very low. The local breeds, which were excluded from the programme, live in the mountains in “semi-wild” conditions and, in consequence, are very

difficult to restrain for sanitary action. The producers receive a special prize for the production of this local breed that is usually raised together with sheep and goat. As *Brucella melitensis* has been isolated from these bovine a Rev 1 vaccination program has been implemented in bovine in these areas and vaccinated animals are identified by tattooes. The number of herds and animals which will be vaccinated in these regions are mentioned and reported in *B.melitensis* program

D. Recommendations

The animal identification database should be implemented.

The members of the subgroup discussed the information received on the Greek bovine brucellosis programme on particular in the Thessaloniki meeting. The following recommendations were made:

1. Urgent attention should be given to an increase of the veterinarians and auxiliary staff involved in the field programmes.

   This could be achieved by:

- recruitment of additional staff
- release of the official veterinarians from tasks that can be done by private practitioners (medicine and surgery)
- authorisation of private practitioners to carry out official duties under the programme and sanitary / meat inspection.

2. There should be a better planning of the programme at both strategic and implementation levels.

   This should include the setting and monitoring of realistic targets.

3. Greater attention should be paid to the collection, evaluation and presentation of data.

   It would be useful if this included data from regions not considered in the EU co-financed programme.

4. Attempts should be done for the increase of the isolation and identification of *Brucella* strains in the infected herds.

5. To avoid cross contamination small and large ruminants should be kept separated if possible. If brucellosis is suspected in one of the sensitive species, the other species should be compulsorily checked.

6. Herd with a suspended B3 or B4 status should be excluded from the B3 or B4 summary data and recorded separately, indicating the number of years without testing.

7. Animals positive for RBT or ELISA in infected herds should be compulsory slaughtered without delay and subsequent testing.

8. A network of milk diagnostic laboratories should be established.

III.5 Ireland

A. Epidemiological situation

There was a decrease of 0.07% in the prevalence of infected herds between the years 1998 and 1999 (Table 1). The highest incidence of the disease is in the south-west region, with 73% infected herds.

B. Control strategy

B.1 Detection of infected herds

- Annual blood testing of all female animals and bulls over 12 months.

  The Elisa for primary screening is replacing the SAT and confirmation is done using CFT

- Compulsory 30-day pre-movement test for all eligible animals.

- Voluntary 30-day post-movement test.

- Bulk milk testing (changing from MRT to Elisa) of all dairy herds on a monthly basis. All animals in herds with positive milk Elisa are blood tested.

- Random sampling of cows is done at slaughterhouses with testing by indirect Elisa and positive ones confirmed by CFT.

In 1999 the most common method for the detection of infected herds was blood testing (83%), followed by MRT (9%) and by reporting of abortions (7%).

Lateral spread of the disease is responsible for over 50% of disease outbreaks. A difficulty is the delay in the detection of lateral spread of infection from the infected herd to the contiguous herds. Intensive farming and high disease incidence characterise the most problematic areas.

In problem areas for a quicker detection of positive herds and to stop lateral contamination, the use of new diagnostic tests are under evaluation and some tests are already checked under field conditions (RBT, brucellin-skin-test and Fluorescent Polarisation Assay). The presently used MSAT gives a high rate of inconclusive results and has been replaced by ELISA. MRT can give a high rate of false positive results in the drying off period, in colostrum and in case of mastitis. It is therefore going to be replaced by ELISA (i. e. in the months of November and December 1997 only 7 % and 9 % of MRT positives were confirmed by MSAT and CFT).

A number of farm dogs were tested on infected farms. As dogs rarely excrete *Brucella*, testing of dogs is not included in the programme.

B.2 Clearance of infected herds

In infected herds movement restrictions are imposed. All positive animals are removed from the herd for slaughter the week following the notification of the positive results by the laboratory to the district office.

Herds with confirmed spread of infection are depopulated and, when repopulated, re-tested for 4 months. Early depopulation reduces the scale of the subsequent spread of the disease, but does not seem as a sole measure to be able to prevent further infection.

There is a possibility that vaccination may have to be used on a very limited basis in high disease incidence areas. Its use would only be considered in an extreme situation if its was found that all other eradication measures were not working.

Stamping out is defined according to a risk analysis assessment made by the official services. After depopulation the farm has to stay empty for 4 months. The possibility to extend this period is under consideration as it has been found that *Brucella* can survive in slurry for at least 6 months, if the slurry is not treated is not exposed to direct sunlight. Some studies are done with heat treatment of slurry or the treatment with lime, raising the pH to 10-11 and inactivating *Brucella* within 4 days.

B.3 Certification and protection of herds

De-restriction is started after 30 days pending a clear test and then 60-day-tests are carried out for up to two calving cycles. As a minimum, herds must have 2 consecutive 60-day-clear-tests and one clear post-calving test before they are being considered for de-restriction. All contact herds to an infected herd are tested immediately and then at regular intervals.

C. Recommendations

It is necessary to specify the measures proposed not only in herds but with regard to areas, because the disease should be considered as an area problem.

To minimise the economic consequences of allowing re-population of depopulated farms after only 4 months the participants recommended to pursue the studies on survival of Brucella in slurry and on pastures, especially if the herds are kept separated from the contaminated pastures and slurry.

The participants recommend that farm dogs should be blood sampled for Brucellosis to evaluate their role as reservoirs of infection.

III.6 Italy

A. Epidemiological situation

The prevalence of brucellosis in bovine herds in 1998 and 1999 was 1.5 % and 1.6 % respectively. The prevalence in animals, in these two years, was 0.4 % each. Comparing 1998 and 1999 there was an increase of 5.5 % in the percentage of herds and of 2.7 % in the animals surveyed.

These data, however, relate only to a part of the Italian territory since, for year 1999, no data were available for the Regions of Calabria, Liguria and Veneto. Due to this fact, in the statistics presented, 20 % of the holdings and 483.000 of the animals are not included. This is the main reason for the decrease of holdings and animals by 12 %.

Regarding regional differences, the highest prevalence in 1999 was found on the island of Sicily (12.7 % of the herds and 2.3 % of the animals). As mentioned previously, no data were available for Calabria, which in the previous year showed the second highest prevalence (7.3 % for herds and 2.1 % for animals).

B. Control strategy

General remarks

The program for 2001 includes testing of all herds twice a year except in the Regions of Sicily, Calabria, Campania and Basilicata where testing is foreseen in 80 % to 97.8 % of the herds, respectively (which represent an increase of 2.5 % to 36 % in relation to 1999).

According to an Italian law from 1999 (implemented Directive 97/12/EC) concerning the qualification of regions a region can be declared as OBF if “no case of abortion due to Brucella infection has been recorded for at least 3 years and, at least 99.8 % of the herds have been free from Brucellosis on 31 December of each year for, at least, 5 years”. The Italian Decree 651/94 on the other hand states that “a Region is OBF if 100% of the herds were tested and at least 99% were qualified as OBF for at least 1 year”. This second criteria shall be used in the 2001-programme, so that 16 Regions are expected to maintain the qualification OBF or to re-qualify.

Data on the situation of brucellosis in buffalo is included in the overall statistics for bovines. Buffalo herds are almost exclusively present in the region of Campania and scarce information is available about their specific epidemiological situation.

Organisational Structures

In Italy there are 3 distinct sectors in each local veterinary unit: A, B and C, which are responsible for live animals, for the slaughter process and for animal welfare.

B.1 Detection of infected herds

The hierarchical chain for laboratory diagnostic has a National Reference Centre, 10 Regional Institutes (IZS) and 100 local laboratories. The local laboratories perform only RBT and CFT and depend on the IZS for typing of isolated *Brucella* strains.

An inter-laboratory proficiency test for RBT and CFT, foreseen by the National Reference Center for all diagnostic laboratories in Italy is expected to take place four times a year. It shall be developed in 2 phases: 1st it will be done with the 10 IZS and with 5 local laboratories and in a 2nd phase it will be extended to all local laboratories.

Laboratory research regarding the detection of illegal vaccination using B19, Rev1 and RB51, especially in sheep and goat, is ongoing.

Tests used are RBT for screening and CFT for confirmation.

MRT is not foreseen as an official test for the Italian brucellosis programme but it is used for the qualification of milk. It is regarded as a very useful bulk test for dairy herds as it allows a substantial reduction of costs in the survey of herds, when compared with the serological survey. Preliminary testing on sensitivity and specificity is ongoing under Italian dairy herd conditions and is considered necessary before using it extensively under field conditions

Animal identification and animal movement control follow the EU Directive. Only animals from B3 and B4 herds are allowed to move to other herds with the same sanitary status and they are subjected to a 30 days pre-movement test. There are, however, some shortcomings in the control. Different software is used in different regions and the network foreseen to automatically update the national animal database is not operational, especially in the southern regions. In addition, the frequency of feeding the data into the system is low and often movements of animals among herds are registered but not movements to slaughter. To overcome this, common software is being prepared by the Italian authorities for the whole territory, to be used in a national information system.

B.2 Clearance of infected herds

The sanitary decision following testing results (RBT positive and CFT negative) varies between the different regions of Italy. In some regions a positive RBT re-test is enough for the decision to slaughter the animal, in others it is necessary to have a CFT positive confirmation.

Stamping out of herds is decided at regional level after an epidemiological investigation conducted by the IZS, which takes into account a risk assessment analysis.

If a positive herd is detected in subsequent epidemiological investigations only tracing of animal movement is used and the survey of neighbouring herds is not foreseen in Italian law.

B.3 Certification and protection of herds

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C. Recommendations

Also for national classification, the criteria established by the Directive for recognition of OBF status should be used, as it is necessary to harmonise procedures within the EU.

A good co-ordination is needed between the different sectors of the local veterinary units to optimise the costs and efficacy of the brucellosis eradication programme.

It is highly recommended to carry-out the planned inter-laboratory ring test urgently, possibly in connection with an eventual Community ring test, in particular taking into consideration that no such quality control has been done in the last 10 years in Italy.

Laboratory research regarding the possibility of detection of illegal vaccination (using B19, Rev-1 and RB51, especially in sheep and goat) should be pursued and results may be applied in other Member States if considered necessary.

Sanitary decisions should be harmonised in all regions of Italy. For infected herds the more strict criteria should be followed (Rec. 5.7. of the meeting on 17/04/2000).

The database for animal movement control must be made operational following the implementation of a common software in the whole Italian territory and following a regular update of the database also after movements of animals.

Standard epidemiological criteria should be defined and epidemiological investigations should include neighbouring herds of an outbreak. Epidemiological investigations should be done in each case with the collaboration of the local veterinarians.

Due to the specificity of the brucellosis situation in buffalo special measures should be proposed for buffalo herds on a regional basis.

III.7 Portugal

A. Epidemiological situation

There are two different eradication programmes in the national territories: the programme for the mainland and the programme for the archipelago of Azores.

In mainland Portugal it was shown that the prevalence of brucellosis in bovine herds in 1998 and 1999 was equal to 0.75% (Table 1).

The prevalence of bovine brucellosis in herds in mainland Portugal was 0.75 % in the years 1998 and 1999. The prevalence in animals, comparing these two consecutive years, rose by 0.07 %. This rise was explained by an outbreak in 1999 in a large beef cattle herd 3.000 cattle) in the Province of Alentejo.

In the nine islands of Azores the overall percentage of infection in 1999 was 3.36 % in herds and 0.75 % in bovine animals. Comparing the percentage of positive blood samples in the last five years in the two largest islands of the Azores (Terceira and S. Miguel), which account for 61 % of the total bovine population of the archipelago, the percentage dropped from 6.24 % to 0.98 % in S. Miguel and from 1.38 % to 0.98 % in Terceira. These figures show undeniably a good progress in the control of bovine brucellosis in the Azores. The results, however, must be interpreted with care because the eradication strategy had been changed from a vaccination to a non-vaccination strategy in 1998 on Terceira and in 1999 on S. Miguel. Also, the percentage of positive sera in relation to the number of sera collected and used for the presentation of results does not give an accurate view of the results of the programme. For that reason, it was recommended that the reporting system as laid down in Commission Decision 2000/322/EC should be used already and the prevalence and incidence of the disease should be calculated.

In humans, in mainland Portugal, the incidence of Brucellosis decreased by 19% over the same period (794 cases in 1998 to 642 cases in 1999). The Regional Directorate of Tras-os-Montes had the higher incidence of disease in humans, especially due to *B. melitensis*.

B. Control strategy

In Portugal, the brucellosis eradication campaign is nationally co-ordinated by the Central Authority (DGV), regionally there are 7 Regional Directorates (DRA) and local official units co-ordinating and supervising the implementation of the programme. Execution of the measures is done by private sanitary defence groups (OPP).

The Regional Authority of the Azores is based on the island of Terceira. It co-ordinates and supervises the activities of the local units also in the other eight islands. In each island the field official veterinary teams perform the activities.

The laboratory network in mainland Portugal includes 22 regional laboratories, which are supervised by the Central Reference Laboratory (LNIV). In the Azores, the Regional Laboratory in Terceira is supervised by LNIV and supervises the 7 local laboratories which are located in all other islands except on Corvo.

In mainland Portugal, the regional laboratories are able to perform screening with RBT. Confirmation with CFT is done by some regional laboratories and by LNIV. MRT is expected to be implemented during the year 2000 in the regional laboratories. Isolation of *Brucella* is only done by LNIV.

In the Azores, the local laboratories perform RBT and MRT. All positive and doubtful samples are sent to the Regional laboratory of Terceira for confirmation with CFT and isolation of *Brucella*. The reagents and controls used in the tests are supplied by LNIV.

The MRT is used regularly in the Azorian herds on a quarterly basis in six of the islands since 1995 and, since 1998, it is performed on a monthly basis in Terceira. 25 % of false-negative reactions to MRT were found in herds with RBT seropositive bovine. The recently introduced (1999) blood testing on Terceira of all the animals killed in slaughterhouses should further increase the confidence in the testing procedures and results.

Preliminary assays have been carried out using serum and milk ELISA. Some technical difficulties were reported. With the help in particular of the subgroup it was possible to overcome the problems with the milk ELISA.

Another problem experienced was that more than 300 strains of *Brucella*, which had been isolated from abortion material and lymph nodes of sero-positive bovine, were not yet typified as specific sera had not been available. It is considered of great epidemiological importance to type the strain isolates. Therefore, in general, in the event of an unreasonable delay in the supply of sera other sources (e.g. OIE laboratories) should be approached.

B.1 Detection of infected herds

In both programmes trade is allowed only from free herds to herds of the same status or to local markets and animals are subjected to blood sampling on a 30 days pre-movement serological test. Special conditions are imposed for the transport of live animals from the archipelagos of Azores and Madeira to mainland Portugal as they are dependent on a special authorisation from the official services and the animals moved are accompanied by transit documents.

The two programmes define that the serological survey includes all the female animals older than 12 months and that the last female calve up to the age of 6 months born from a serologically positive cow should be slaughtered. Herds with B2-status are tested three times per year, B3- and B4-status herds are tested at least once per year.

On the Azores serological testing is carried out in slaughterhouses and on markets; MRT is possible. The testing schedule for MRT foresees 1 test per month (Terceira), 1 test per 2 months (S. Miguel) or 1 test every 3 months (other islands).

Vaccination is prohibited in the whole country; exceptions are possible. Animal movement is only allowed among free status (B3 and B4) cattle herds.

In Azores, in 1968 a batch of B19 vaccine, contaminated with pathogenic *Brucella* caused severe spread of the disease in bovine. Nowadays the farmers are still reluctant in using live vaccines. The “accident” in 1968 lead to the extensive use of M45-20 vaccine from the early 1980’s up to October 1999 when an FVO inspection team recommended to stop vaccination.

Most of the private veterinarians in the Azores as well as many farmers do not believe in the changed eradication approach (stop of vaccination). Even if the new strategy has been decided, discussion on pros and contras continue, resulting in a confusion of the producers and their unwillingness to co-operate.

In addition to the general sanitary measures special requirements are imposed on the premises of dealers and markets. These account for isolation of animals and regular disinfection of farms and

vehicles and for animal welfare and they are controlled by a private veterinarian with sanitary responsibility.

Serological survey of shepherd dogs is foreseen in both programmes. A preliminary study showed that there is a high rate of sero-positive shepherd dogs in the farms with infected bovines.

B.2 Clearance of infected herds

In Azores, a RBT positive bovine is only slaughtered if the positive result is confirmed by CFT even if the animal continues to be RBT positive when repeatedly tested. This procedure is different in mainland Portugal, where a second not confirmed positive reaction to RBT results in the slaughtering of the animal.

The slaughter of infected animals should be done within 45 days after confirmation of the disease to the owner and the products of calving should be sent for laboratory isolation of *brucella spp* or destroyed. Serological re-testing of all animals of the herd should be done within 6 weeks and 3 months after slaughtering of all positive animals.

In the Azores 7 cumulative criteria for the decision to stamp out a herd are defined. These criteria refer to repeated occurrence of seropositive animals in a herd, however, they do not include the situation of isolation of *Brucella* in the laboratory. In the mainland programme on the other hand isolation of *Brucella* is followed by recommendation of whole herd slaughtering as this indicates that there is an active infection of the herd. It is recommended that this strategy is also included in the programme for Azores.

Lifting of restrictions is only considered after:

- 2 neg. blood tests carried out as re-testing (above)

- in case of stamping out the premises and materials should be cleaned and disinfected and remain empty for at least 60 days.

B.3 Certification and protection of herds

In mainland Portugal herds are classified as B3 if they are RBT negative for at least 2 serological collections irrespective of the vaccination status of cattle or herds. Vaccination is being interdicted in mainland Portugal since October 1992. Classification of herds as B4 is linked to an area classification, which was has not yet been implemented in the national territory. This classification is neither in accordance with the approved programme nor with Directive 64/432/EEC.

A classification of areas was not yet implemented in Mainland and in the Azores.

Transmission of *Brucellosis*

Contact transmission

In the Azores it was considered that the major risk of transmission of infection among the herds is due to direct contact. As it was verified in the visits to 2 local farms, the production system is based on pasture in small patches of land surrounded by patches used by other producers. In this situation the increased risk of *Brucella* infection can be due either to the direct contact with the an animal or to the use of common paths for moving the animals to other parcels of land.

It was concluded by the participants that it is of outmost importance to increase the awareness of the producers to the epidemiology of Brucellosis. Namely the risk of contamination of pasture during the calving season and due to abortions should be underlined. Collaboration of the farmers in the eradication programme is essential in particular in this aspect. Rural extension services should promote the benefits for the farmers if the eradication programmes would be successful. If possible, the merging of land should be promoted and, if necessary, rewarded. The producers should co-ordinate the movement of animals in order to reduce the risk of contamination of pasture and of contacts between free and infected animals and herds.

Contaminated pastures

The Portuguese programmes define that pastures should not be used from 30 to 60 days after the sanitary slaughter of a herd.

The definition of this period is not based on any scientific study. Therefore it is difficult to justify to the farmers why they must stop their activity for this length of time, which is economically very costly as dairy production is the main activity of the majority of the producers on the Azores.

Herds at risk

Another problem arising from the type of production system of Azores is to define herds at risk, after the detection of a positive herd. Supposing that, as happened in one of the farms visited, the producer owns 10 patches of land and, in average, each of them is surrounded by 10 other patches belonging to different producers it could be necessary to investigate up to 100 different herds.

C. Recommendations

(1) The reporting system as laid down in Commission Decision 2000/322/EC should be used already and the prevalence and incidence of the disease should be calculated for each region.

(2) All female calves, up to the age of 12 months, from infected dams should be killed.

(3) In case of discrepancies in results of RBT and MRT an epidemiological investigation should be carried out and a re-evaluation of the sampling and of the diagnostic methods could be necessary.

(4) The criteria used in mainland Portugal for deciding on the slaughtering of animals in non-infected herds (herds, in which *Brucella* had not been isolated) should also be applied in the Azores. In infected herds animals positive to RBT should always be slaughtered (recommendation 5.7 of the meeting on 17/04/2000).

(5) The maximum period for the slaughtering of animals should be reduced (i. e. to 30 days) and the animal should be kept isolated from other bovines during this period.

(6) The classification of herds should be as defined in the Directive. Further classification taking the status of the area into account was supported. According to information received from Portugal, new national legislation, to be approved, classifying herds as B2, B3 and B4 uses this criterion.

(7) The participants consider strongly that area classification should be implemented. This could facilitate defining measures according to the disease situation (recommendation 5.4 of the meeting on 17/04/2000).

(8) After having defined free and infected areas animals coming form infected areas should be submitted to pre- and post-movement testing (Recommendation 5.8 of the meeting on 17/04/2000).

(9) A scientific study should be performed to evaluate the maximal survival time of *Brucella* under the special conditions of the different Portuguese regions. This study should also refer to the possible processing of grass to use for hay or silage.

(10) In order to overcome the problem of small patches of land owned by different farmers it would be useful to map the whole territory of the islands, in particular where infected herds where identified. Each positive herd should be submitted to an epidemiological enquiry and a risk assessment should be made taking into account the risk of transmission of the disease namely in the patches where the cows pasturage during the calving period. Furthermore, the husbandry system should be influenced with the aim to reduce movements of animals between pastures and to co-ordinate movements within a defined area.

(11) Dogs should be included in the testing campaign and in particular in epidemiological inquiries. In case of positive findings these animals should be treated if possible.

(12) The participants recommend towards the responsible authorities to very clearly define a chosen strategy and to stop discussions once the decision had been taken. Private veterinarians must be taken “on board of the campaign”. They must support the strategy and they must help convincing the farmers. The farmers must be aware of their responsibilities for the success of the campaign. Continued discussions will only lead to confusion and de-motivation. A strong awareness campaign of the advantages in changing the strategy from stopping of vaccination and starting of only test-and-slaughter should be done locally, including technical staff, veterinarians and producers, so that people believe in eradication without using vaccination. More emphasis should be made on the technical justification of the technical measures implemented to eradicate bovine brucellosis and previous discussion of the programmes with the people and organisations engaged in its control, is desirable.

III.8 Spain

A. Epidemiological situation

The general main objective of the Spanish bovine brucellosis programme is to increase the number of officially brucellosis free herds and to gradually reduce vaccination.

The prevalence of brucellosis in bovine herds in Spain in 1998 and 1999 was 2.0 % and 1.4 % respectively. The prevalence in animals, comparing these two consecutive years, dropped from 0.4 % to 0.3 %. The regions (CCAA) with greater prevalence of infected herds were Aragon (8.4 %) and Andalucia (7.7 %) with 0.7 % infected animals each. The CCAA of Cantabria also had a prevalence of 0.7 % in animals and detected a prevalence of 4.3 % of infected herds.

There are almost 2.000 herds in Andalucia whose status is considered unknown (B1), which accounts for 20 % of the total number of herds in this region.

The number of human cases significantly fell since 1988. In 1998, human brucellosis prevalence was 3,89 cases per 100.000 inhabitants. More than 99 % of the cases of brucellosis in humans are caused by *B. melitensis.*

B. Control strategy

The classification of herds foresees B1, B2 positive, B2 negative, B3 and B4 herds. Movement of animals from B1 to B2 holdings depends on a negative serological testing 30 days prior to transfer. After movement the animal is isolated in the herd of destination for 60 days and a post movement test is then performed. If an animal is moved from B2 to B2 herds only a negative pre-movement test is necessary.

B.1 Detection of infected herds

The diagnostic tests used are the RBT for screening and the CFT for confirmation of positive samples. Also used are ELISA and MRT. Laboratory improvements are expected for 2001 in the confirmation of false positive serological reactions and in the typing of *Brucella* strains isolated from active outbreaks. For the discrimination of false positive samples the use of brucellin skin tests has been very useful in France and this might be considered for other programmes as well

B.2 Clearance of infected herds

Slaughter of positive animals is compulsory within 30 days from the date of notification of the laboratory result.

Vaccination with B19 is done in high prevalence areas with extensively kept herds and mountain areas. In the end of 1999, six CCAA carried out vaccination and nine had B3 herds (herds with vaccinated animals). The region with most vaccinated herds (942) and animals (4.795) in 1999 was Aragón.

B.3 Certification and protection of herds

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C. Recommendations

It is necessary to define, according to the Directive 97/12/CE, when to transfer a herd from B3 to B4 status.

Due to the different situations and problems seen in the autonomous regions it is necessary to quantify objectives and targets for the different regions taking into account their specific situation. This should include at least a definition of the expected level of prevalence and the survey of 100 % of the bovine herds in each region. In the Autonomous Communities with a percentage of infected holdings of less than 1%, specific measures should be defined and implemented to achieve complete eradication in the short term.

Animal movement to another herd should only be authorised if both, the herd of origin and the herd of destination have B3 or B4 status.

III.9 United Kingdom

A. Epidemiological situation

In Northern Ireland an increase of 0.2% in the prevalence of seropositive herds was observed comparing the years1998 and 1999.

Regional prevalence of the infected herds is higher in the southern regions (Armagh) with 47%.

B. Control strategy

Veterinary service structure is centralised and based on a divisional "patch" system where a Veterinary Officer manages each patch and all the blood sampling is made by its own technical staff.

Important epidemiological information is obtained through an animal health computer database, which registers all testing and movement data since 1989 and allows the rapid tracing of cattle. This database facilitates the epidemiological evaluation of the source of infection: in the period January 1998 to February 2000, 68.5 % of herd infection was due to animal contact, 39 % was due to neighbour contact, 20.1 % due to indirect contact and 9.4 % due to area contact; unknown activity was responsible for 19.5 %, of which 6.9 % was due to suspect activity, and cattle purchase was responsible for 11.9 % of infection.

The nature of farming is an obstacle to the control programme as it includes small, fragmented farms, high levels of intra- and inter-herd movements and the economic impact of the BSE crisis.

B.1 Detection of infected herds

Each bovine is tested once every two years.

The routine testing of cattle includes serum agglutination (SAT) test and CFT as a back-up. In addition MRT, ELISA for milk and sera (this last used as a screening test) and EDTA, are also used.

Detection of infection includes that:

- SAT is used as a screening test and may miss 20-30% of the infection at the first test.
- Abortions are often not reported.
- Intervals of 4 months for re-testing neighbouring herds (sucklers) is large.
- Difficulties in getting some farmers to test the animals as they are kept in pastures and are difficult to restrain.
- There is suspicion of illegal cross border movement of animals.

B.2 Clearance of infected herds

In case of positive results (isolation of *Brucella*), the whole herd is being bought by the government and all bovines with the exception of castrated males are being slaughtered. Herds

surrounding the positive herd are put under restriction until at least one negative testing result proves their disease freedom.

The information from the national health computer database is taken into account in the disease management strategy. This is based on the slaughter of confirmed outbreaks (herds with *Brucella* isolation), detailed mapping of neighbouring herds, investigation of possible links to infected farms by computerised tracing and on setting of tests (SAT confirmed with CFT) and double-ring testing of surrounding herds. In this case the herds within the area of the 1st ring have restricted movement until immediate testing is done with negative results.

B.3 Certification and protection of herds

C. Recommendations

A more sensitive screening test than SAT should be used.

The public awareness campaign for producers should be continued, especially in the higher prevalence areas in the southern regions.

There is a need for further investigation of illegal movement by prosecution teams and illegal activity with animals should have high penalties.

Annual testing should be done on routine basis in high-risk areas, including suckler herds.

Abattoirs should be surveyed.

Herd buy-out should be based on risk assessment.

The trial underway for bulk milk ELISA should be enforced.

Amendments to ring-herd testing should be considered:

(a) Reduction of the testing interval;

(b) Use of additional serological tests;

(c) Restriction of intra-herd movement.

IV. Subjects to be followed-up in the future

12. Further evaluation of the progress of bovine brucellosis eradication in the MS.

13. Discussion of possibilities to further improve tests and testing procedures.

3. Discussion of the criteria for stamping-out of herds i. e. depending on the level of sero-prevalence and on the disease history of the herd.

14. Vaccination against bovine brucellosis.

15. Agreement on a model for epidemiological investigation in infected herds and flocks.

16. Further discussion of compensation rules and procedures resulting in a proposal from the group to the Commission and to the MS on how to harmonise compensation for losses connected to bovine brucellosis.

V. The following areas for cost effective research were identified

Testing methods:

-The validation of the most adequate tests, and

-the implementation of new tests

Vaccines:

-the selection of vaccination regimes, and

-the study of new vaccines

VI. Conclusions

1. The work of the Task Force and in particular of its subgroups has in its first year commenced in a very positive and constructive way. Particularly important for this were the basic objectives of the groups:

   - Establishing a group, which would deal as well with general as with specific questions and difficulties of the diseases to be eradicated and the way to achieve eradication;

   - Discussion of difficulties in the programmes and in their implementation in an open way with the aim to help the Member States in finding solutions to their special problems;

   - Motivation of the people involved in the programmes, in particular the local veterinarians and the industry (farmers, transporters etc.), by having the meetings of the subgroups in the Member States concerned and preferably in the most difficult areas.

2. Most of the concerned Member States were grateful for the help provided and reacted by considering the recommendations made. In this context it must be pointed out that this reaction may in the short and medium term lead to an increase of infected animals and

holdings mainly due to increased testing and more severe interpretation of testing results. This increase should not be interpreted as a failure of the programme!

3. In the evaluation of the situation in the Member States it became obvious that the difficulties in some programmes is often due to the lack of political support, which results in basic problems for the veterinary services.

ANNEX

Members of the subgroup for bovine brucellosis

Nominated member	Substitute
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4. Brucellosis

4.1 A network of reference laboratories should be established in order to harmonise testing procedures and to improve standardisation of tests. The legal basis for the nomination of a Community Reference Laboratory for brucellosis should be established as soon as possible and a Community Reference Laboratory to co-ordinate the diagnosis for brucellosis in the Member Countries should be created.
- Meeting SG bB on 17/04/2000, SG Bm on 18-19/04/2000; TF on 27/07/2000 -

4.2 Need for harmonisation and for validation of tests, for proficiency testing and for accreditation of the laboratories in the Member States.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 -

4.3 For epidemiological purposes it is necessary to increase efforts to isolate *Brucella*, to type the strains isolated and to keep serum and culture banks.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 -

4.4 The usefulness of available tests should be defined for each given epidemiological situation.
- Meeting SG Bm on 18-19/04/2000; TF on 27/07/2000 -

4.5 Certification for testing regarding animal movement should be harmonised.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 –

The SG bB had also recommended using ELISA as the test of choice, at least for intra-Community trade. This test was the "most sensitive test available although it is the less specific test and frequently leads to false positive reactions". The TF regards this statement as very strict and favoured further discussion on this subject.

4.6 Pre-movement animal testing should be a rule and pre- and post-movement testing should be required if animals come from infected areas.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 –

The SG bB had recommended post-movement testing as a rule. In the meeting of the TF all but one Member States favoured pre-movement tests.

4.7 Sero-positive female animals and their calves are regarded as particularly dangerous in the spread of infection and should, therefore, be slaughtered immediately after positive diagnosis.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 -

4.8 In non-qualified areas and in particular in flocks living in or coming into or leaving infected areas or going for transhumance testing in a brucellosis-free holding for maintaining the BF status should surpass the requirements stated in Directive 91/68/EEC as such as all reproductive animals in the holding should be tested.
- Meeting SG Bm on 18-19/04/2000; TF on 27/07/2000 -

Greece and Spain had reservations in the TF with this recommendation because
- an important incentive for positive herds would not exist any more and
- this would result in very much increased work for the official veterinarians for taking and investigating samples
and in an increase of total costs of the programme.

4.9 In an infected herd, every animal positive to RBT, serum ELISA or any other approved serological screening test should be considered as infected and therefore slaughtered, without waiting for results of confirmatory tests.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 -

4.A Bovine brucellosis

4.A.1 For cattle the use of B19 vaccine is recommended in high prevalence areas/ herds to reduce the incidence to levels in which a bovine brucellosis eradication programme, based on a test and slaughter policy, can be initiated.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 -

4.A.2 Testing procedures, including the tests to be used for screening and for confirmation of positive results and the testing intervals in dairy and beef herds have been defined by the SG bB in detail. Different scenarios including procedures in brucellosis-free holdings, in low-risk and risk areas and in infected holdings have been considered.
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 -

4.A.3 Research regarding the validation of testing and the implementation of new tests and the study of new vaccines and vaccination regimes should be carried out (cost-effective research areas were identified by the SG bB).
- Meeting SG bB on 17/04/2000; TF on 27/07/2000 –

4.B Sheep and goat brucellosis

4.B.1 Where not implemented yet, a control and a management system of all animals' movements should be implemented step by step, the first step being the declaration of movements by the herd-owners and their registration by the veterinary services. The second step would be the management of movements in order not to mix flocks of different sanitary statuses.
- Meeting SG Bm on 18-19/04/2000; TF on 27/07/2000 -

4.B.2 In areas with high disease prevalence vaccination is recommended as a tool to reach a lower prevalence necessary to achieve eradication (sheep and goat brucellosis).
- Meeting SG Bm on 18-19/04/2000; TF on 27/07/2000 -

4.B.3 The slaughter policy following the outcome of tests performed should be harmonised once the opinion of the Scientific Veterinary Committee concerning sheep and goat brucellosis is available. However, at least in areas with less than 5 % herd prevalence any animal in infected herds reacting to Rose-Bengal-Test or to Complement-Fixation-Test should be compulsory slaughtered.
- Meeting SG Bm on 18-19/04/2000; TF on 27/07/2000 -

4.B.4 Animals subject to sanitary slaughter must be eliminated as quickly as possible
- Meeting SG Bm on 18-19/04/2000; TF on 27/07/2000 -

4.B.5 Most of the deficiencies detected by the Food and Veterinary Office in its missions on sheep and goat brucellosis eradication programmes have a real basis and should be taken into consideration in the future programmes
- Meeting SG Bm on 18-19/04/2000; TF on 27/07/2000 -

V. Measures taken

V.A Measures taken by the Member States

Many recommendations of the Task Force and of the subgroups have been taken into account for the programmes submitted for the year 2001 or have directly been incorporated in the implementation rules of the running programmes during the year 2000.

V.B Measures taken by the Commission

In accordance with the recommendations, in particular the following actions were taken:

1. Once a month in a meeting of the Standing Veterinary Committee (Animal Health) Member States were requested to provide information (in oral and in written form) on diseases co-financed by the Community.

2. Harmonised models for reports to be submitted by the Member States on their programmes to the Commission have been agreed upon (Commission Decision 2000/322/EC).

3. A ring trial involving all National Reference Laboratories (NRL) for bovine and for sheep and goat brucellosis has been carried out (technical organisation by the NRL of the UK in Wheybridge, Dr. A. MacMillan).

4. A meeting of all National Reference Laboratories for bovine and for sheep and goat brucellosis took place on 13/14 December 2000.

5. Draft models for epidemiological reports for bovine and for sheep and goat brucellosis have been established (first drafting and co-ordination of the work done by the chairman of the sheep and goat brucellosis subgroup, Dr. B. Garin-Bastuji).

6. Preparations for the drafting of possible harmonised rules for compensation of farmers (drafting done by the chairman of the bovine brucellosis subgroup, Prof. F. Boinas).

(m PT):

2. GREEK PROGRAM **(Annex 6)**

Presented by Dr Anastasios Minas.

2.1. General Balance of the Greek situation

2.1.1. Field actions

The participants considered that although not specifically included in the programme for 2001, the results of all Nomos should be evaluated, as the country has to be considered as a whole!

The group considers that this needs further clarification as a herd cannot hold its status if not tested during the year.

It is recommended, in the short term, to authorize and establish contracts with private veterinarians to carry out routine tasks such as taking of samples or carrying out of vaccination. This could strengthen the efficiency of the implementation of the eradication program. This would allow the official services to dedicate more time to actual disease outbreaks (epidemiological follow-up) and to strategic tasks. The programmes could be better co-ordinated and supervised and available data could be more effectively evaluated. If private veterinarians were engaged in the programme it would be recommended to promote monthly meetings of the veterinarians of the Nomos with a Veterinary Officer to discuss the epidemiology of the disease, to discuss the performance of tasks, to evaluate the progress of the eradication programmes in the area and to stipulate targets and methods for the reduction of the prevalence and the incidence of the disease.

The epidemiological evaluation can be facilitated if the reporting of the District Veterinary Officers is strengthened using standardised forms that were developed for data collection in 1999 and for the presentation of reports.

(m EL):

Day 1

1.1 Opening Session (Dr M. Patikas, Director of the Veterinary Services of Thessaloniki**)**

Dr. M. Patikas, the Director of the Veterinary Service of Thessaloniki, welcomed the participants. He briefly presented the main problems of the area: traditional stockbreeders and husbandry systems, animal movements in mountains, absence of premises..

The results obtained with the programme up to the present time were not the best but it was expected that a better control of brucellosis through an exhaustive control of the animals, especially cattle and an improved situation would be achieved in 2001. The priorities were to implement identification of cattle and to massively vaccinate all sheep and goats herds in the mainland.

1.2 The current role of subgroups of the Task Force in the improvement of the implementation of eradication programs (Dr K. Sander)

K. Sander explained the purpose of the eradication programmes and the role of the Commission in the evaluation process and the follow-up of the programmes. The Task Force was created for monitoring the progress of disease eradication in the Member States. Its objectives, structure and operation were explained as well as those of its subgroups.

Recommendations of the Task Force and its subgroups are made with the purpose to help the Member States in their eradication attempts after a close review of the situation of the programmes in the countries concerned.

1.3 Structure of Central and Local Veterinary Service (Dr N. Kostomitsopoulos, Ministry of Agriculture, and Dr M. Patikas)

The Ministry of Agriculture (MA) at central level has 3 Departments:

-Animal Health

-Public Health and Zoonoses and

-Veterinary Drugs and Applications

The Department of Animal Health has the responsibility of any factor affecting the health of animals (including fish and wild animals). This includes also the responsibility of diagnosis, therapeutics, prophylaxis, etc.

The Department of Public Health is in charge of meat inspection in slaughterhouses and in meat processing plants, of the control of abattoirs and in the protection against food-borne diseases. There is a close collaboration between the Dept. of Animal Health and the industry.

The Department of Veterinary Drugs and Applications controls the laboratories of the pharmaceutical industry, drugs and additives and also reproductive diseases, artificial insemination, etc.

In each of the 54 Prefectures (Nomos) there is a Prefecture Veterinary Directorate with three departments corresponding to the three national departments.

The Prefecture Veterinary Directorate in each Nomos is under the "command" of the Ministry of Internal Affairs and not to the Ministry of Agriculture.

Within the Prefectures there are in total 347 Rural Veterinary Services, called Field Veterinary Clinics (FVC), which belong to the administration of the prefectures – and therefore the Ministry of Internal Affairs. The FVC are not linked to and not under the command of the MA. The organisation of the FVC correspond to the structure of the MA.

The eradication programmes and all corresponding decisions are defined by the MA. They have to be implemented without changes or adaptations at local level by the FVC. The MA also finances the programmes (movement of staff, material, compensation etc.).

The data from the FVC are sent to the Department of Animal Health of the MA, which controls the implementation.

In 1980 there were 1270 official veterinarians and presently (2000) there are 600 of which 200

are near retirement. This results from the policy of the Ministry of Internal Affairs, which has not employed new veterinarians for the past 15 years. The MA employs temporary staff for short periods of time, 8 to 12 months, after a long and complicated admission process.

The veterinarians working in the FVC have multiple tasks including:

- Meat inspection

- Implementation of the eradication programmes including its survey, testing, vaccination, identification of animals, registration of animals for movement control, compensation payments, etc.

- Animal clinics and therapeutics: provided as a veterinary service free of charge (as determined by national law).

- Control of drugs

Due to the shortage of staff, priorities are defined for field veterinarians with the following rank: 1st for meat inspection, 2nd for veterinary practice and 3rd the implementation of the programmes.

Private veterinarians are not allowed to work for the eradication programmes; the only veterinarians authorised for this task are the official staff of the FVC.

The subgroup discussed that the free veterinary practice provided by the official veterinarians was one of the factors interfering most with the implementation of the programme. Carrying out of diagnosis and treatment of animals leaves only little time for official tasks. Furthermore, as this is carried out free of charge, private practitioners have no chance to build an own practice because of lack of clients.

In addition, even without this difficulty the official staff would not be able to perform all their duties due to their small number. Therefore more official staff should be contracted and/or private veterinarians should be appointed for official tasks under the programme.

The Greek authorities know that Greek farmers are not satisfied with the present sanitary system especially because of the lack of available veterinarians.

Another problem identified was that by Greek legislation only official drivers are allowed to drive official cars. However, this rule seems not to be implemented under all circumstances and in all provinces.

In Greece there are 15 veterinary laboratories, 2 veterinary institutes and 12 border inspection services. The laboratories belong to the MA and analyses are performed free of charge. There is also a shortage of staff in the laboratories.

The Milk factories are not allowed to carry out official milk tests. Two perform the MRT for private purpose. The subgroup discussed the advantages of the collaboration of the co-operatives in performing the official tests.

Some aspects of the Greek legislation that could be modified / adapted to facilitate the implementation of the programmes were discussed. These included in particular the tasks of the official veterinarians and the organisation of the laboratory investigations.

2. Bovine brucellosis eradication program in Greece: strategy, current situation, implementation of the program, operational and implementation problems

2.1 National overview (Dr Anastasios Minas) (see Annex 3)

The bovine brucellosis eradication programme in Greece started in 1981 and is based on the testing of all cattle over 12 months of age and on the slaughter of positive ones.

The results are considered good, especially in dairy cattle, due to the structure of the husbandry in Greece (good separation of farms that do not mix on pastures).

The following national statistics were presented for the first six months of 2000:

- N° of Animals/herds:	669,759	/	31,538
- Animals herds in the program	569,015	/	29,400
- Animals/herds planned to be controlled:	557,44	/	28,306
- Animals/herds controlled:	111,232	/	8,104
- Animals/herds controlled %	19 %	/	27 %
- % of positive animals/herds:	2,63 %	/	6.0 %

There are 19 Prefectures with less than 1% infected farms. Although no data is presently available to confirm this (these data are being collected at the moment) it is planned to propose some of these 19 regions to the CEC to be considered as brucellosis officially free areas (see also Section 2.5). The Greek subgroup member present in the meeting explained the Greek view: according to Directive 64/432/EEC, no matter of how often the herds have been tested, if there are less than 0.2% infected herds for 5 years, absence of abortion and no isolation of *Brucella*, there is evidence that brucellosis does not occur in the area. This was a matter of discussion as the other sub-group members understand that, according to the same Directive, a herd has to be controlled yearly for area recognition.

The data presented show that the herds / animals are not examined every year (as can be seen in the comparison of the 2 tables "Implementation of bovine brucellosis program from 1-1-2000 to 30-6-2000" and "Epidemiological situation at 30-6-2000" in Annex 3). For example in the Nomos of Achaia there are 49 herds and 794 animals investigated in this period and there are 285 B4 herds and 2969 B4 animals existent (B4 = officially brucellosis free herds/ animals). It can also be observed that there is a relevant delay in the implementation of the programme up to the end of the first semester. There are some areas highly infected (*e.g.* Thessaloniki and Athiki).

In the regions of Thessaloniki, Larissa, Trikala and Pieria *B. melitensis* has been isolated in cattle in 29 out of 33 *Brucella* isolations (88%). This is considered to be due to the herds of cattle and small ruminants grazing together

The Brucellosis programme approved for co-financing by the Community in 2000 includes only 8 Nomos. The campaign in the rest of the country had not been requested to be financially supported and will therefore be financed only by the Greek Government.

According to the programme ELISA milk test shall be performed 3 times a year in dairy herds with B4 status. When a positive reaction occurs serology is performed with RBT for screening and confirmation of positive results is done either with CFT or serum ELISA or both tests.

False positive milk ELISA tests have been observed mainly towards the end of the lactation period.

The field veterinarians do not decide about the sanitary status of the herds and do not define the testing protocol. This is the responsibility of the diagnostic laboratory that serves the area; it decides after the evaluation of the available data.When RBT is positive and CFT is negative the

laboratory performs a herd investigation and the herd keeps the free status after negative evaluation of:

- The epidemiological situation of the farm, namely the chance of contact transmission;

- No introduction of animals from other farms. Local veterinarians are inquired to confirm if there was an illegal introduction of animals.

- No clinical signs. As in Greece only around 50 abortions are reported and investigated per year, incentives are being considered as to increase the producers reporting.

In these RBT+ and CFT- herds the serological control is repeated after 1 month. If a bovine presents 2 consecutive RBT positive results, the farmers are strongly advised to slaughter the animal and the rest of the herd is again checked with RBT, and confirmation done with CFT and ELISA.

In this situation slaughter of the RBT+ is not compulsory as the provisions of Directive 64/432/EEC are used as the technical rules for the eradication campaign (obligatory confirmation with SAT, CFT or ELISA). According to the Greek representatives compensation payments in these situations have been denied by FEOGA. The members of the subgroups consider that if these cases were specifically proposed in the official programme the producers are entitled to receive the compensatory payment.

In infected herds there is no standardised way of using tests for the eradication of the disease: The Greek members of the subgroup consider the provisions of the Directive as sufficient. The main priority is to reach 100 % herds with a sanitary status; the possibility to concentrate eradication effort area by area is not considered.

New veterinary legislation to be approved is previously sent to the laboratories and to the central and local veterinary services for discussion before being adopted.

The penalties to non-co-operating farmers can be up to 1m. DCR (3,000 €) accompanied by a ban of selling the milk.

Infected herds have a limitation in trading live animals, except for slaughter. The delay of sending animals for slaughter can have penalties of up to 50% of the compensation (see minutes of the meeting of the subgroup held in Portugal, 14 & 15 June 2000).

In the past during some time all milk from infected herds was destroyed according to the interpretation of the Directive 92/46/EC. The members of the subgroup agreed on the present policy, which considers that the milk from the infected cow is discarded while the milk from the rest of the herd may be used after heat-treatment. This heat treatment must be carried out under the supervision of the competent authority.

2.2 Implementation of the bovine brucellosis eradication program in Thessaloniki (Dr M. Patikas)

The Thessaloniki Prefecture has 15 field veterinary clinics of which 14 are active (see map in annex 4). A pilot project was made to centralise these activities into 2 large FVC, one located on the mountains and 1 in the city of Thessaloniki. The advantages were a better processing of the data collected and an improved control of the implementation of the programme. This project was abandoned due to the logistic problems posed on the producers and on the field veterinarians by the distance between the FVC and the farms.

In Thessaloniki there are 58 veterinarians among the 92 staff working for the Veterinary Services

in the Prefectures. 29 veterinarians work in the FVC of which 17 are working on the food inspection department (6 veterinarians are engaged all day with meat inspection in 3 industrial slaughterhouses, 5 small slaughterhouses, 1 pig and 1 poultry processing plants) and 12 are District Veterinary Officers.

During the first semester of 2000, there were 199 herds and 5,503 animals tested for brucellosis and this accounts respectively for 13,2% and 7,6% of the existing herds and animals. The prevalence of the disease in this sample is 17.51% of the herds and 6,03 % of the cattle tested. 3,000 animals and 50 herds were not included in the data presented, as they are included in the Rev. 1 vaccination programme.

Although it is considered that in the Nomos of Thessaloniki there is no shortage of staff to implement the eradication programme they only performed the testing in a small percentage of herds.

There was a diagnostic laboratory, dependent on the MA that stopped activities temporarily and now the laboratory of Larissa performs the brucellosis diagnosis.

Milk samples are being sent to the Laboratory of Larissa for analysis by MRT and ELISA. A greater co-operation of the farmers is obtained with the increase of the control by testing of milk, as it avoids catching the animal for serology tests, and it is considered that this can help speeding up the eradication of the disease.

The industry receives a list of farms from which they should not collect milk as a way to put pressure on farmers to improve the herds status. Comments to this were that in that way the control over contaminated milk is lost, it can go to other routes and penalising farmers requires the capacity of veterinary services to perform a close follow-up of farms to eradicate the disease.

2.3 Implementation of the bovine brucellosis eradication program in Achaia (Dr A. Papagiannis)

Achaia is not included in the EU-approved bovine brucellosis eradication programme and the measures are therefore not supported by EU funds. Most of the territory (4/5) of this Nomos consists of mountain and the remaining 1/5 consists of plain.

In Achaia there are 33 people employed (including 11 on short-term contract) of which 12 are veterinarians and none of them is working for the FVC. There are 9 FVC, most located in the mountain areas, with only 3 FVC presently working.

There are 300 herds in the Nomos with dairy cattle (3,232 animals) and 207 herds with 2,800 animals under “free” conditions for meat production. Only 49 herds out of a total of 507 herds (9.8%) were investigated during the first semester of 2000, 5 herds (10.2% of herds investigated) with positive animals. These 5 herds were not followed-up after 2 months, as foreseen by the official programme. The priority was given to the control of *Brucella melitensis* by vaccination of sheep and goats with the allocation of 70% of the veterinary resources. The campaign of vaccination resulted already in a decrease of the incidence of human brucellosis infection.

The statistics presented 285 herds as B4 status even if they were not tested in the current year and sometimes not for about 10 years. This refers mostly to dairy herds while the remaining 200 herds are suckler herds, which are the ones more frequently infected.

It was discussed that the maintenance of a herd sanitary status depends upon the twice yearly herd test according to the Directive 64/432/EEC and, if this frequency is not fulfilled, another classification should be used to define the suspended status.

The major shortcoming for a good implementation of the programmes is considered to be the lack of personnel.

Programming of activities of the field veterinarians is very difficult because of the multiple activities in which they are involved and also because strict protocols for activities are not defined. As an example if half of the herd grazes together with sheep and goats sometimes the survey is only done in the small ruminants, as catching is easier. These difficulties are also felt in the identification of cattle with ear tags.

2.4 Implementation of the bovine brucellosis eradication program in Etoloakarnania (Dr A. Kotsoni)

This Nomos, located in West Greece, is mostly mountains. It is the largest in area and has the highest population of sheep and goat (11,364 flocks and 1,000,000 animals) but not of cattle (826 herds and 28,601 animals). Most of the farmers are dedicated to agriculture and not to livestock production.

There are 9 FVC in Etoloakarnania with 1 of them being closed. It is considered that there is lack of staff with only 14 veterinarians and the auxiliary staff is under temporary contract.

There are 16 slaughterhouses working almost every day. They are small and provide meat for local consumption and are considered as too many but stopping activity and concentrate it in large abattoirs is not accepted by the local people, specially the producers that refuse to travel a long way with the animals for slaughter.

Also in this Nomos, the emphasis of the programme was given to the Rev. 1 vaccination of cattle and of sheep and goats with an intra-conjunctival dose of 10^8 CFU of young and adult non-pregnant animals.

Only a small number of bovine holdings were investigated during the first semester of 2000: 5 herds out of the 806 existing. Of the 806 herds, 108 had only 1-2 animals. The remaining 700 include the free-ranging cattle in which the programme has never been implemented except when it is possible to catch and vaccinate the animals. Identification is also implemented as this is linked with a premium.

The shortage of staff explains the low performance of the programme in cattle, especially in the B1 herds.

The small milk herds in the program that have B1 status use the milk for fattening calves and not for human consumption.

2.5 Implementation of the bovine brucellosis eradication programme in Cyclades islands (Dr I. Bogiantzidis)

This archipelago has 36 small islands of which 24 are inhabited. The Prefecture sets in Syros.

There are 12 FVC of which 2 are presently closed. There are 13 veterinarians and Dr Bogiantzidis considers that 21 veterinarians are needed as already required to the MA in 1988 but there was no reply to this. Veterinarians are occupied with a range of activities (see Section 2.1) and cannot pursue with the execution of the programme.

The major difficulties verified in this Nomos are the lack of personnel, the geography of the area and difficulty of transportation.

There are 16,720 cattle in 1,922 herds and all are classified as B4 even though not all of them have been tested within the last year. Due to the statistics presented 49 herds (197 cattle) were investigated in the first semester of 2000 and one positive animal found was related to a mistake of a veterinarian sampling a 2-month-old animal. Historically there are no cases of Bovine brucellosis in animals in the area.

Up to 1997 the programme was implemented in the herds but, due to the shortage of staff, priorities were given to the implementation of the *B. melitensis* programme.

According to the planning the bovine brucellosis programme is implemented once every 2 years: 50% of the farms are investigated in one year and the remaining 50 % in the following year.

Dr Bogiantzidis considers that the maintenance of the status of the B4 herds can be more easily done pursuing and re-enforcing the use of analysis in milk samples.

As no positive cases occurred for more than 5 years, the Greek Official Services intend to send a request to the Commission to approve this area as well as others in similar situations (Section 2.1) as officially brucellosis free. Due to the interpretation of the Directive regarding the suspended status of herds not all participants agreed that the conditions set by the Directive for such recognition of freedom were fulfilled. It was concluded that the validity of this request should not be subject to discussion of this subgroup.

There is a restriction of movement of animals from the mainland to the islands. Animals should come from B4 herds and are subject to pre-movement testing. The percentage of animals that come from the mainland are around 10% of the cattle population and most are sent to the slaughterhouse with a special movement certificate.

The Laboratory of Athens performs the diagnosis of brucellosis. New forms were devised during the current year to send serum and milk samples for the diagnostic work.

3. Discussion on the Greek bovine brucellosis eradication programme –