



EUROPEAN COMMISSION
HEALTH & CONSUMERS DIRECTORATE-GENERAL
Unit 04 - Veterinary Control Programmes

SANCO/12982/2010

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

Monitoring and eradication programme of TSE, BSE and scrapie

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

Hungary

* in accordance with Council Decision 2009/470/EC

***APPLICATION FOR
COMMUNITY CO-FINANCING OF
TSE MONITORING PROGRAMME OF
HUNGARY FOR 2010***

April 2010

1. Identification of the programme

Member State: HUNGARY

Diseases: Bovine spongiform encephalopathy (BSE) and scrapie

Year of implementation: 2011

Reference of this document: Article 27 of Council Decision 2009/470/EC,
Commission Decision 2008/425/EC

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Date sent to the Commission: 29th of April 2010.

2. Description of the programme

Annual programme for monitoring BSE and scrapie using rapid tests in accordance with Article 6 and Annex III, Chapter A of Regulation (EC) No 999/2001.

3. Description of the epidemiological situation of the disease

The Act on Food Chain and on the Supervision of the Food Chain (Act on No XLVI of 2008, in the previous years the Act on the Veterinary Rules /Act No CLXXVI of 2005 and Act No XCI of 1995/) prescribes that the animal keeper shall report the illness or the suspicion of a disease of the animal to the veterinarian. Before 1995 the former legislation rules on animal health also prescribed it. It has to be stressed that the veterinary legislation have prescribed for decades that the animal keeper has to report the illness or the suspicion of a disease of his/her animal to the veterinarian in every case not only in case of notifiable disease or suspicion of notifiable disease. It is the task of the veterinarian to state the suspicion of a notifiable disease and in case of the suspicion act on the basis of the detailed rules of the Zoosanitary Code (Decree No 41/1997(V.28.) FM of the Minister of Agriculture) or other ministerial decrees.

Since 1995 the BSE has been a compulsorily notifiable disease in Hungary (from 1995 to 2005 by the Act No. XCI of 1995 on the Veterinary Rules, from

2005 to September 2008 by the Act No CLXXVI of 2005 on the Veterinary Rules and from September 2008 by the Decree No 113/2008 (30.VIII.) of the Ministry of Agriculture and Rural Development (MARD) on notification of animal diseases). Furthermore, BSE is a compulsorily notifiable disease in Hungary by the by the Decree No 179/2009 (29. XII.) of the Ministry of Agriculture and Rural Development (MARD) on the prevention, control and eradication of transmissible spongiform encephalopathies.

It has to be noted that many years before the BSE became compulsory notifiable disease it was already compulsory to report each ruminant showing any neurological signs as a suspicious case of rabies and since 1989 these animals have been investigated for BSE (or scrapie) besides the laboratory tests for rabies. BSE has never occurred in indigenous herd. There was only one **imported** BSE case in 2007.

The scrapie is also a compulsorily notifiable disease in Hungary by the Decree No 113/2008 (30.VIII.) of the Ministry of Agriculture and Rural Development (MARD) on notification of animal diseases and by the Decree No 179/2009 (29. XII.) of the Ministry of Agriculture and Rural Development (MARD) on the prevention, control and eradication of transmissible spongiform encephalopathies. (In the previous years by the Act on the Veterinary Rules /Act No CLXXVI. of 2005 and Act No XCI of 1995/). Many years before the scrapie became compulsory notifiable disease it was already compulsory to report each ruminant showing any neurological signs as it was mentioned before. The first scrapie case occurred in 1964 at an import quarantine station among imported sheep. The second case was confirmed in January 2005 in a sheep imported from Romania for immediate slaughter. There were six confirmed scrapie cases in 2006 and there were eight of them in 2007 in domestic sheep population. In 2008 nine scrapie cases occurred in domestic sheep population. In 2009 fifteen scrapie cases occurred in domestic sheep population.

Between 1989 and March 2001 our surveillance system was the following:

The investigations of the brains of all ruminants showing any neurological signs were carried out for BSE or scrapie with histopathological method, irrespective of any other existing diagnosis. Furthermore on the basis of Zoosanitary Code (Decree No 41/1997(V.28.) FM) the compulsory, nationwide monitoring system has contained the investigation of the brains of the slaughtered, culled ruminants, as well as of the bovine animals older than three years and the sheep older than two years which died even without showing any neurological signs. This procedure corresponded to the Appendix 3.8.4. of the OIE International Animal Health Code (Surveillance and monitoring systems for BSE) and its Chapter 2.3.13.

Besides the ruminants the histopathological investigation were carried out in case of the felidae species, too. In Hungary the Central Veterinary Institute and the five regional veterinary institutes had carried out tests for TSEs with histopathological method. In these laboratories our experts performed these investigations according to the recommendations of the OIE Manual of Standards for Diagnostic Tests and Vaccines. The sampling place, as well as, the investigation procedure corresponded to the recommendations of the Manual. From 1989 to 2000, 1806 bovine brains and 1983 ovine brains were tested, with negative results in each case. In case of felidae species our experts carried out over 3800 tests, with negative results, too. The population of goats is very small in Hungary, therefore only a few goats are investigated per year (e.g. in 1998 11 and in 1999 5 goats). There was not any positive result in case of this species, either. Please see the attached table (**Table 1**).

From March 2001 our surveillance system regarding TSE have been extended as follows:

1. Passive surveillance

It has been compulsory to investigate all ruminants showing any neurological signs in an official laboratory (as it was in the past, too). But there are some differences in the examination of the different species. In case of bovine animals only the Central Veterinary Institute (Budapest) was allowed to carry out investigation for BSE until March 2003 (After March 2003 the two regional veterinary institutes are also allowed to carry out this investigation). In the first step a histopathological examination is carried out as laid down in the latest edition of the OIE Manual. Where the result of the histopathological examination is inconclusive or negative or where the material is autolysed, the tissues shall be subjected to an examination by one of the other diagnostic methods laid down in the Manual (immuno-blotting, immunocytochemistry, or demonstration of characteristic fibrils by electron microscopy). In case of other ruminants the Central Veterinary Institute and the two* regional veterinary institutes are allowed to carry out histopathological investigation for TSE. Where the result of the histopathological investigation is inconclusive or negative without alternative diagnosis, the tissues shall be subject to an examination by immunocytochemistry in the Central Veterinary Institute. From 19 March 2009 cattle, sheep and goats showing any neurological signs can be investigated not only with histopathology examination, but with other confirmatory examinations laying down in Annex X to the Regulation (EC) No 999/2001, (immunohistochemical method, SAF-immunoblot, demonstration of characteristic fibrils by electron microscopy or combination of rapid tests), too.

*From 1 January 2001 there were only two regional veterinary institutes in Hungary, not five. At the end of 2004 these two institutes were attached to the Central Veterinary Institute and became the regional institutes of the CVI. From 1 January 2007 the National Reference

Laboratory is the Veterinary Diagnostic Directorate of the Central Agricultural Office (the former Central Veterinary Institute). The rapid test and the histopathology in case of TSE suspicion is also carried out by the Veterinary Diagnostic Directorate's two regional labs in Debrecen and Kaposvár. The confirmatory test is carried out by the National Reference Laboratory in Budapest.

2.Active surveillance, National Monitoring Programme

A new National Monitoring Programme for BSE based on the rapid tests was introduced in March 2001 by the internal instruction of the CVO No 32505/2001. This programme has been changed several times since March 2001 following the modifications of the relevant EU rules, but since the start of the programme until 2004 the Bio-Rad Platelia test had been used. Since 2004 the Bio-Rad TeSeE™ Detection Kit has been used. The internal instruction of the CVO No 32505/2001 was modified by internal instructions No 32505/1/2001. and 8349/2002. Until July 2001 the main target subpopulation were the dead bovine animals over 30 months of age without any neurological signs. After the first modification of our surveillance program (in July 2001) the monitoring investigations covered the following groups:

- bovine animals over 24 months which died without any neurological signs, or killed ones (excluding bovines killed due to an epidemic);
- all emergency slaughtered bovine animals over 24 months;
- animals over 30 months of age subject to normal slaughter.

In February 2002 the compulsory investigation of all bovine animals over 30 months of age subject to normal slaughter was introduced. These monitoring investigations were carried out by the Central Veterinary Institute (CVI) only. Please see the attached tables on the BSE monitoring investigations 2001 and 2002. (**Table 2 and 3**)

The above mentioned internal instructions contained the following rules for the confirmatory tests.

Where the result of the monitoring test is inconclusive or positive, the tissues immediately shall be subjected to confirmatory examinations. The confirmatory examination shall start by a histopathological examination of the brainstem as laid down in the OIE Manual. Where the results of the histopathological examination is inconclusive or negative or where the material is autolysed, the tissues shall be subjected to an examination by one of the other diagnostic methods laid down in the Manual (immuno-blotting, immunocytochemistry, or

demonstration of characteristic fibrils by electron microscopy), but the method must not be the same as the one used in the monitoring test.

In March 2003 a new internal instruction of the CVO were issued (No 11496/2/2003.) and the compulsory investigation of all dead bovine animals over 24 months has been introduced since 1 May 2003. These internal instruction contained the approval for the two regional veterinary institute (at Debrecen and Kaposvár) to carry out rapid tests for BSE and scrapie as well as to carry out histopathology in case of bovine animals. (Before this date it was allowed only in case of other ruminants as it was mentioned earlier.)

As a part of the harmonisation process of the Hungarian veterinary legislation to the EU rules in June 2003 the Decree No 69/2003. (VI.25.) FVM of the Minister of Agriculture and Rural Development on the prevention, control and eradication of transmissible spongiform encephalopathies were published. On the basis of the Decree the TSE Contingency Plan issued at the end of November 2003. This Contingency Plan contains a special chapter for the official control carried out by the State Veterinary Service and a very detailed Instruction Manual for the practical implementation of the legislative rules. Furthermore in February 2004 Decree No. 22/2004. (II.27.) FVM amending Decree No. 69/2003. (VI.25) FVM were published and from the date of accession Hungary has been directly under the effect of Regulation (EC) No 999/2001. In December of 2009 a new Ministerial decree for executing of Regulation (EC) No 999/2001 was published (Decree No 179/2009 (29. XII.) of the Ministry of Agriculture and Rural Development (MARD) on the prevention, control and eradication of transmissible spongiform encephalopathies) and the Decree No 69/2003. (VI.25.) FVM of the Minister of Agriculture and Rural Development on the prevention, control and eradication of transmissible spongiform encephalopathies was repealed.

4. Measures included in the programme

4.1. Designation of the central authority in charge of supervising and coordinating the departments responsible for implementing the programme:

In national level this monitoring program is supervised and coordinated by the Animal Health and Animal Welfare Directorate of the Central Agricultural Office.

In county level the Food Chain Safety and Animal Health Directorate of the County Agricultural Office is responsible for the implementation of the programme.

4.2. Description and delimitation of the geographical and administrative areas in which the programme is to be applied:

The TSE monitoring programme covers the whole territory of Hungary, the derogation laid down in Annex III, Chapter A, I.3.2. of Regulation (EC) No 999/2001 is not applied in our country. (Please see the map of Hungary.)

4.3. System in place for the registration of holdings:

In case of cattle a computerized, centralized identification and registration system (ENAR) has been operated since 1997 and each bovine herd has been registered in the frame of this system.

In case of sheep a computerized, centralized identification and registration system (ENAR) has been operated since 2000. The ovine herds have been registered on the basis of the Decree No. 29/2000. (VI. 9.) FVM of the Minister of Agriculture and Regional Development. Please see also the following point.

In case of goats the Zoosanitary Code (Decree No 41/1997. (V.28.) FM of Minister of Agriculture) prescribes that during identification of these animals pre-printed ear-tags must be used, but until May of 2005 there was no special ministerial decree for the identification and registration of goats. However the voluntary registration of goats have been started by the breeding organizations of goats without the special legislation. In May of 2005 a new decree of the Minister of Agriculture and Rural Development, Decree No 47/2005. (V.23.) FVM, was published about the identification and registration of goats and sheep and for the implementation of Council Regulation (EC) No 21/2004. (In case of sheep this new decree replaced the Decree No. 29/2000. (VI. 9.) FVM.) In October of 2007 a new decree of the Minister of Agriculture and Rural Development, Decree No 119/2007. (X.18.) FVM was published about centralized registration of holdings and herds. In December of 2009 a new decree of the Minister of Agriculture and Rural Development, Decree No 182/2009. (30. XII.) FVM was published about the identification and registration of sheep and goats and for the implementation of Council Regulation (EC) No 21/2004.

Please see also the following point.

4.4. System in place for the identification of animals:

Bovine animals

Bovine animals are subject to individual identification and registration. This obligation has been laid down in several legal texts. The most common provisions related to individual identification of animals belonging to *inter alia*

bovine animals are laid down in the Zoosanitary Code and in the legal texts dealing with the animal passport which has got to accompany the animals during domestic transport.

Special rules for bovine animals have been implemented as follows:

Individual identification of bovine animals:

Until 31 December 1972:

horn branding

tattooing

ear-tagging (by pre-printed or handwritten individual number)

data recorded and handled in the herd-book.

From 1 January 1973: (Decree No. 10/1972. (VIII.9.) MÉM of the Minister of Agriculture and Alimentation)

ear-tagging (for most animals by pre-printed individual number)

data recording and handling on both herd and county level.

Registration and identification using central, computerised database

From 18 September 1997 (Decree No. 62/1997. (IX. 10.) FM of Minister of agriculture

ear-tagging by pre-printed, bar-coded individual number

data recording and handling in computerised, central database.

The rules of the Decree No. 62/1997. (IX. 10.) FM were equivalent to the relevant rules of the European Union. Since 1997 due to *inter alia* the changes of the EU rules we have modified our rules several times. The current legislative text, namely the Decree No 99/2002. (XI.5.) FVM of Minister of Agriculture and Rural Development are fully compatible with the following legislative Rules of the European Union: (The Decree No 99/2002. (XI.5.) FVM was modified before Accession by Decree No 12/2004. (I.31) FVM of the Minister of Agriculture and Rural Development.)

- Regulation (EC) No 1760/2000 of the European Parliament and of the Council establishing a system for the identification and registration of bovine animals and regarding the labelling of beef and beef products and repealing Council Regulation (EC) No 820/97;
- Commission Regulation (EC) No 494/98 laying down detailed rules for the implementation of Council Regulation (EC) No 820/97 as regards the application of minimum administrative sanctions in the framework of the system for the identification and registration of bovine animals;
- Commission Regulation (EC) No 2629/97 laying down detailed rules for the implementation of Council Regulation (EC) No 820/97 as regards

ear tags, herd registers and passports in the framework of the system for the identification and registration of bovine animals;

- Commission Regulation (EC) No 1082/2003 of laying down detailed rules for the implementation of Regulation (EC) No 1760/2000 of the European Parliament and of the Council as regards the minimum level of controls to be carried out in the framework of the system for the identification and registration of bovine animals;

- Council Directive (EC) No 97/12 amending and updating Directive 64/432/EEC on health problems affecting intra-Community trade in bovine animals and swine;

- Council Directive (EEC) No 92/102 on the identification and registration of animals.

Ovine and caprine animals

Ovine and caprine animals are subject to individual identification and registration. This obligation has been laid down in several legal texts.

The most common provisions related to individual identification of animals belonging to the two species are laid down in the Zoosanitary Code and in the legal texts dealing with the animal passport which has got to accompany the animals during domestic transport.

Special rules for these two species have been implemented as follows:

Individual identification of ovine and caprine animals:

By 30 June 1997:

tattooing

ear-tagging

From 1 July 1997: (Zoo-Sanitary Code, Decree No. 41/1997. (V.28.) of the Minister of Agriculture)

ear-tagging by pre-printed individual number

From 1 January 2010: (Decree No 182/2009. (30. XII.) FVM)

Electronic ear-tagging or ruminal bolus

Registration and identification of ovine animals using central, computerised database:

From 17 June 2000: (Decree No. 29/2000. (VI. 9.) of the Minister of Agriculture and Regional Development regarding ovine animals

ear tagging by pre-printed number,

(supported by a tattooed ear number prefix)

data recording and handling in computerised, central database for breeders.

From July of 2005 until 1 January of 2010 the Decree No. 47/2005. (V.23.)* FVM about the identification and registration of sheep and goats and for the implementation of Council Regulation (EC) No 21/2004 had been effective. Parallel making this decree in the frame of a PHARE project a new central, computerised database for sheep and goats were developed. After 1 January of 2006 this new central database is fully operable. In December of 2009 a new decree of the Minister of Agriculture and Rural Development, Decree No 182/2009. (30. XII.) FVM was published about the identification and registration of sheep and goats and for the implementation of Council Regulation (EC) No 21/2004.

* It was published on 23 May of 2005.

Registration and identification of caprine animals

As it was mentioned earlier the voluntary registration of goats have been started by the breeding organizations without special decree as result of this work the most of the breeding farms were registered by these organizations before May of 2005. As it was mentioned earlier in May of 2005 the Decree No 47/2005. (V.23.) FVM, were published about the identification and registration of sheep and goats and for the implementation of Council Regulation (EC) No 21/2004. This was the first special Hungarian decree regarding the identification and registration of goats. On the basis of this decree the new central, computerised database is fully operable for goats as well. From 1 January of 2010 Decree No 182/2009. (30. XII.) FVM entered into force about the identification and registration of sheep and goats and for the implementation of Council Regulation (EC) No 21/2004.

The detailed rules for registration and identification of ovine and caprine animals

Until 1 January of 2010 on the basis of Decree No 47/2005. (V.23.) FVM of the Minister of Agriculture the identification and registration of sheep and goats was the following.

The identification system was the same in the breeding and the commercial flocks.

All sheep and goats were identified until 6 months of age or before leaving the birth holding. In case of animals not intended for keeping in the birth holding the first and second mean of identification was also eartags.

The identification of animals intended for keeping in the birth holding was the following:

a tattoo of registration number in two ears and one tag with the same number and bar code. (In case of transport to other member states the second eartag was also compulsory)

The eartag consisted of a 9-11 digits individual code in case of sheep and a 10 digits individual code in case of goats.

In case of sheep the registration number consisted of a 5 digits holding code after that a 2-5 digit individual number (the first digit of this number is the last number of the birth year). Before this number might be a one digit serial number. This system was used in breeding sheep flocks from the early seventies and in the commercial sheep flocks from 1997.

The Decree 182/2009 (XII. 30.) FVM of the Minister of Agriculture the identification and registration of sheep and goats is effective as of 1 January 2010 and it has been introduced the usage of the electronic eartag or ruminal bolus in Accordance with Council Regulation (EC) No 21/2004.

The individual numbers are given by a central computer database that operating according to Article 7 and 8 of the Regulation (EC) No 21/2004. It is compulsory to register the data listed in Part D of Annex to Regulation (EC) No 21/2004 in the Central Database.

The holding register is in the same computer database, it consists all data of holdings and animal keepers.

During the transport an official document accompanies the animals. This document contains the data listed Part C1 of Annex to Regulation (EC) No 21/2004 as well as the ID number of animals. This transport document has five copies, two from it remain at the original keeper, two ones accompanying the shipment, and the last has to be given to the veterinarian who signed the animal health declaration in the transporting document.

4.5. Measures in place as regards the notification of the disease:

As it was mentioned in point 1 the BSE and the scrapie are compulsorily notifiable diseases in Hungary by the Act No. XCI of 1995 on the Veterinary Rules. Furthermore, according to the Section 19 of Decree No. 179/2009 (XII.29) FVM during the implementation of the provisions of the Act on Food Chain and on the Supervision of the Food Chain (Act on No XLVI of 2008) persons engaging in the keeping and buying of animals shall

- notify the suspicion of a TSE to the veterinary surgeon, if any animal owned or taken care of or transported by the person shows neurological symptoms,

behavioural disorder or a progressively deteriorating condition, which may be attributed to a disease of the nervous system;

- notify any death of bovine, ovine or caprine animals to the veterinary surgeon irrespective of the symptoms shown prior to the death of the animal;
- follow the veterinary surgeon's instructions, promote his/her work in all possible ways and tolerate the measures and interventions ordered.
- notify normal slaughter of cattle over 30 months and ovine or caprine animals over 18 months for own consumption, furthermore emergency slaughter of cattle, ovine or caprine animals without veterinary supervision to the veterinary surgeon.

4.6. Monitoring

As it was mentioned earlier the National TSE Monitoring Program is supervised and coordinated by the Animal Health and Animal Welfare Directorate of the Central Agricultural Office and this program covers the whole territory of Hungary.

In Hungary it is compulsory to investigate by rapid test:

- all bovine animals over 24 months which died, or killed ones (excluding bovines killed due to an epidemic)
- all emergency slaughtered bovine animals over 24 months
- all bovine animals over 24 months with clinical signs at ante mortem.
- all bovine animals over 30 months of age subject to normal slaughter
- 10 000 slaughtered sheep over 18 months
- 10 000 dead sheep over 18 months
- all emergency slaughtered goats over 18 months and all caprine animals over 18 months with clinical sign at ante mortem inspection (from 2009)*
- 100 dead goats over 18 months (from 2009)*

* The number of goat's investigations has been reduced due to the decline of Hungarian goat population.

In 2003, 86595 healthy slaughtered cattle over 30 months as well as 4263 emergency slaughtered and 6532 dead ones over 24 months were tested with negative results. (Please see **table 4**.) In 2004, 81284 healthy slaughtered cattle over 30 months, 2436 emergency slaughtered and 12264 dead cattle over 24 months as well as the 35 cattle over 24 months with clinical signs at ante mortem were tested with negative results. (Please see **table 5**.) During 2005, 67770 healthy slaughtered cattle over 30 months, 2464 emergency slaughtered and 13269 dead cattle over 24 months as well as the 12 cattle over 24 months with clinical signs at ante mortem were tested with negative results. (Please see **table 6**.) In 2006, 67362 healthy slaughtered cattle over

30 months, 2579 emergency slaughtered and 13725 dead cattle over 24 months as well as the 37 cattle over 24 months with clinical signs at ante mortem were tested with negative results (Please see **table 7**). In 2007 69440 healthy slaughtered cattle over 30 months, 1971 emergency slaughtered and 13522 dead cattle over 24 months as well as the 15 cattle over 24 months with clinical signs at ante mortem were tested. In case of a cattle imported from Slovakia for immediate normal slaughter the rapid test and the confirmatory tests were positive, too. (Please see **table 8**) In 2008 70831 healthy slaughtered cattle over 30 months, 1435 emergency slaughtered and 13625 dead cattle over 24 months as well as the 8 cattle over 24 months with clinical signs at ante mortem were tested with negative results (Please see **table 9**). In 2009 75317 healthy slaughtered cattle over 30 months, 872 emergency slaughtered and 12155 dead cattle over 24 months as well as the 21 cattle over 24 months with clinical signs at ante mortem were tested with negative results (Please see **table 10**).

In 2003, totally 2545 sheep over 18 months were tested by Bio-Rad Platelia tests and all results were negative. These 2545 sheep covered 1717 dead and 828 (714 healthy and 114 emergency) slaughtered ones. During 2004, 4196 dead, 218 emergency slaughtered and 1306 healthy slaughtered ovine animals over 18 months were tested, all results were negative excluding one healthy slaughtered sheep imported from Romania for immediately slaughter. During 2005, 5483 dead, 354 emergency slaughtered and 3113 healthy slaughtered ovine animals over 18 months were tested, all results were negative. During 2006, 5615 dead, 477 emergency slaughtered and 5905 healthy slaughtered ovine animals over 18 months were tested, and excluding the seven positive animals the results were negative. During 2007, 6682 dead, 764 emergency slaughtered and 4473 healthy slaughtered ovine animals over 18 months were tested, and excluding the seven positive animals the results were negative. During 2008, 7134 dead, 872 emergency slaughtered and 5031 healthy slaughtered ovine animals over 18 months were tested, and excluding the nine positive animals the results were negative. During 2009, 6720 dead, 905 emergency slaughtered and 4071 healthy slaughtered ovine animals over 18 months were tested, and excluding the 15 positive animals the results were negative. (Please see **tables 11-25**)

In 2003, 77 dead, 10 emergency slaughtered and 66 healthy slaughtered caprine animals over 18 months were tested with negative results. In 2004, 136 dead, 4 emergency slaughtered and 132 healthy slaughtered caprine animals were tested with negative results. During 2005, 173 dead, 21 emergency slaughtered and 53 healthy slaughtered caprine animals were

tested with negative results. During 2006, 120 dead, 26 emergency slaughtered and 45 healthy slaughtered caprine animals were tested with negative results. During 2007, 258 dead, 25 emergency slaughtered and 119 healthy slaughtered caprine animals were tested with negative results. During 2008, 216 dead, 20 emergency slaughtered and 42 healthy slaughtered caprine animals were tested with negative results. During 2009, 195 dead, 19 emergency slaughtered and 76 healthy slaughtered caprine animals were tested with negative results. (Please see **tables 26-40.**)

Genotyping

During 2004 the genotypes of 601 sheep were determined in accordance with Annex III Chapter A, Part II, points 8.2. In 2005, 2006, 2007, 2008 and 2009 this number was 600 per year.

Under the framework of a breeding programme as established in Commission Decision 2003/100/EC in 2005, 3322, in 2006, 4450, and in 2007 3791 sheep were genotyped. Under the framework of a breeding programme referred to in Article 6a of Regulation (EC) No 999/2001 in 2008 4230 sheep, in 2009 4380 sheep were genotyped. Besides these investigations in 2007 3020 sheep, in 2008 6546, in 2009 8559 sheep were genotyped in the infected flocks.

(Please see **table 41-48** regarding the investigation in 2006, 2007, 2008 and 2009.)

4.6.1. Monitoring in Bovine Animals

	Estimated Number of tests
Animals referred to in Annex III, Chapter A, Part I, points 2.1, 3 and 4. of Regulation (EC) 999/2001 ¹	17 000
Animals referred to in Annex III, Chapter A, Part I, points 2.2 of Regulation (EC) 999/2001	75 000
Others (specify)	0

4.6.2. Monitoring in Ovine animals

	Estimated Number of tests
Ovine animals referred to in Annex III, Chapter A, Part II, point 2 of Regulation (EC) 999/2001	10 000*
Ovine animals referred to in Annex III, Chapter A, Part II, point 3 of Regulation (EC) 999/2001	10 000
Ovine animals referred to in Annex III, Chapter A, Part II, point 5 of	3000**

¹ OJ L 147, 31.5.2001, p. 1, Regulation as last amended by Regulation (EC) No 2245/2003 (OJ L 283, 19.12.2003, p. 28).

Regulation (EC) 999/2001	
Ovine animals referred to in Annex VII, Chapter A, point 3.4(d) of Regulation (EC) No 999/2001	600**
Ovine animals referred to in Annex VII, Chapter A, point 5(b)(ii) of Regulation (EC) No 999/2001	100**
Others (specify)	0

* Taking into consideration not only the investigation of sheep slaughtered in the Hungarian slaughterhouses, but ovine animals slaughtered (by the farmer) for own consumption.

** Estimated on the basis of the scrapie cases found during 2006, 2007, 2008 and 2009.

4.6.3. Monitoring in Caprine animals

	Estimated Number of tests
Caprine animals referred to in Annex III, Chapter A, Part II, point 2 of Regulation (EC) 999/2001	150
Caprine animals referred to in Annex III, Chapter A, Part II, point 3 of Regulation (EC) 999/2001	150
Caprine animals referred to in Annex III, Chapter A, Part II, point 5 of Regulation (EC) 999/2001	150*
Caprine animals referred to in Annex VII, Chapter A, point 3.3(c) of Regulation (EC) No 999/2001	60*
Caprine animals referred to in Annex VII, Chapter A, point 5(b)(ii) of Regulation (EC) No 999/2001	60*
Others (specify)	0

* There were no cases in our domestic goat population, therefore it is very difficult to estimate it.

4.6.4. Discriminatory tests

	Estimated number of tests
Primary molecular testing referred to in Annex X, Chapter C, point 3.2 (c) (i) of Regulation (EC) 999/2001	96*

* Estimated on the basis of the scrapie cases found during 2006, 2007, 2008 and 2009.

4.6.5. Genotyping of positive and randomly selected animals

	Estimated number of tests
Animals referred to in Annex III, Chapter A, Part II, point 8.1 of Regulation (EC) 999/2001	20*
Animals referred to in Annex III, Chapter A, Part II, point 8.2 of Regulation (EC) 999/2001	600

* Estimated on the basis of the scrapie cases found during 2006, 2007, 2008 and 2009.

4.7. Eradication

4.7.1. Measures following confirmation of a BSE case

4.7.1.1. Description

Following confirmation of a BSE case measures laid down in Annex VII, Chapter A of Regulation (EC) 999/2001 shall be carried out.

The BSE has never occurred in indigenous herd in Hungary, therefore the necessary information are not available to estimate the number of the animals which will be killed under the requirements of Annex VII, Chapter A, Point 2.1 of Regulation (EC) 999/2001 during 2010.

4.7.1.2. Summary table

	Estimated number
Animals to be killed under the requirements of Annex VII, Point 2.1 of Regulation (EC) 999/2001:	0*

* There was no BSE case in domestic population in Hungary therefore we are not able to estimate it.

4.7.2. Measures following confirmation of a scrapie case

4.7.2.1 Description

The first scrapie outbreak (with two cases) in our domestic herds was found in Fejér county in June 2006. During the second half of 2006 other four outbreaks occurred, one in Jász-Nagykun-Szolnok county and three in Hajdú-Bihar county. Furthermore we found an other sheep in December in Bács-Kiskun county where the rapid test was positive in December 2006, but the scrapie confirmed in January 2007. There were eight confirmed scrapie cases including the above mentioned case, too. There were nine confirmed scrapie cases in 2008. There were fifteen confirmed scrapie cases in 2009. The attached table contains the most important data regarding the scrapie cases (*table 49- 52*).

Following confirmation of a scrapie case measures laid down in Annex VII, Chapter A of Regulation (EC) 999/2001 shall be carried out.

4.7.2.2. Summary table

	Estimated number
Animals to be killed under the requirements of Annex VII, Chapter A, point 2.3 of Regulation (EC) No 999/2001:	11000*

Animals to be genotyped under the requirements of Annex VII, Chapter A, point 2.3 of Regulation (EC) No 999/2001:	11000*
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*Estimated on the basis of the scrapie cases found during 2006, 2007, 2008 and 2009.

4.7.3. Breeding programme for resistance to TSEs in sheep

4.7.3.1. General description²:

The breeding programme for resistance to scrapie has been developed and organised by the Hungarian Sheep and Goat Breeders Association. The program based on the risk groups listed in table A and the results of the preliminary investigations carried out in 2003 (see table B). Hungarian Breeding Programme was modified in December of 2007.

Table A: Prion protein genotype and likelihood of manifestation of scrapie according to the risk groups

Risk group	Genotype	The likelihood of manifestation of scrapie
<i>R1</i>	ARR/ARR	Very low risk in case of tested animal and its offspring as well.
R2	ARR/AHQ ARR/ARH ARR/ARQ	Low risk in case of tested animal and its offspring as well.
R3	AHQ/AHQ AHQ/ARH AHQ/ARQ ARH/ARH ARH/ARQ ARQ/ARQ	Low risk in case of tested animal, but there is a real risk in case of its offspring depending on the genotype of the other parents
R4	ARR/VRQ	There is a high risk in case of tested animal and offspring as well.
R5	AHQ/VRQ ARH/VRQ ARQ/VRQ VRQ/VRQ	The highest risk

It is very important to prevent and control of scrapie. Its elements are the following:

² Description of the programme according to the minimum requirements set out in Annex VII, Chapter B of Regulation (EC) No 999/2001.

The results of this preliminary investigations are the basis of the current Hungarian breeding programme (Table B).

Breeds	n	ARR	ARQ	VRQ	R1	R5
Cigája	84	33,33	61,90	0,60	4,76	1,19
Gyimesi racka	57	27,19	70,18	1,75	5,26	1,75
Hortobágyi racka	140	23,93	42,50	3,57	5,00	3,57
Cikta	64	20,29	70,29	-	1,45	-
Landschaf merinó	57	21,05	73,68	0,88	5,26	1,75
Charollais	75	38,67	47,33	12,67	13,33	10,67
Texel	102	38,24	31,37	8,82	10,78	7,87
Ile de France	53	69,81	22,64	6,60	52,83	5,66
Prolific merino	59	58,47	37,29	-	32,20	-
German blackheaded	65	51,54	46,15	0,77	21,54	-
Suffolk	69	50,72	43,48	0,72	26,09	-
Hungarian merino	404	46,29	49,75	0,99	22,52	0,74
German meatmerino	137	41,97	44,53	0,36	13,14	-
Lacaune	38	39,47	51,32	-	10,53	-
Awassi	62	38,71	46,77	5,65	17,74	4,84
Booroola merino	46	35,87	55,43	-	8,70	-
British milking	53	35,85	27,36	-	11,32	-

The results of investigations between 2005-2007 (Table C)

Fajta	n	ARR	VRQ	R1	R2	R3	R4	R5
Hungarian merino	1598	49,1	1,2	22,5	52,1	23,0	1,3	1,2
German meatmerino	1546	52,4	1,0	26,4	51,1	20,5	1,0	1,0
Landschaf merino	550	38,5	0	12,0	53,1	34,9	0	0
Charollais	144	39,6	14,6	14,6	36,1	20,8	13,9	14,6
Ile de france	654	76,1	6,0	57,8	26,9	3,5	9,8	2,0
German blackheaded	545	65,6	0,6	41,8	46,6	10,5	0,9	0,2
Suffolk	1027	55,8	0,4	29,6	52,0	17,5	0,4	0,4
Texel	200	51,0	5,5	24,0	46,0	18,5	8,0	3,5
Awassi	19	7,9	0	0	15,8	84,2	0	0
British milking	151	28,8	0	8,6	40,4	51,0	0	0
Lacaune	528	65,5	0,4	39,6	51,3	8,3	0,6	0,2
Dairy Tsigai	96	27,6	6,8	1,0	44,8	40,6	8,3	5,2
Tsigai	158	40,8	3,5	19,0	39,9	34,2	3,8	3,2

Cikta	41	14,6	0	4,9	19,5	75,6	0	0
white racka	954	34,1	3,0	11,3	43,3	39,3	2,2	3,9
black racka	89	39,9	10,7	3,4	29,2	47,2	5,6	14,6
Gyimesi racka	168	36,0	3,6	13,7	43,5	36,3	1,2	5,4
Bábolnai tetra	85	34,7	3,5	15,3	32,9	32,9	5,9	12,9
Romney	9	44,4	5,6	11,1	66,7	11,1	0	11,1
Bergschaf	1	50,0	0	0	100,0	0	0	0

2. The breeding programme is based on previous investigations and extends to all breeds breeding in Hungary:

- It is compulsory to genotype all breeding rams.
- Only rams of R1, R2 or R3 risk groups may be breeding rams, in case of R3 risk group the using of animals ARR/ARQ alleles is not recommended.
- Animals with VRQ allele may leave the flock only for slaughter.

Genotyping and data recording

The Hungarian Sheep and Goat Breeders Association approves the results of accredited laboratories only.

The document approved by the Hungarian Sheep and Goat Breeder Association has to be accompanied the samples for genotyping. The Hungarian Sheepbreeder Association records the results with the individual ID number of the tested sheep in the database.

Qualifying of flocks

I. scrapic free level:

All lambs originated from ARR/ARR rams for one year at least.

II. scrapic free level:

All lambs originated from ARR/ARR, ARR/ARRH or ARR/ARRQ rams for one year at least

4.7.3.2. Summary table

	Estimated number
Ewes to be genotyped under the framework of a breeding programme referred to in Article 6a of Regulation (EC) No 999/2001	1000*
Rams to be genotyped under the framework of a breeding programme referred to in Article 6a of Regulation (EC) No 999/2001	4000*

* Number of the investigations under the framework of a breeding programme depends on the number of investigations in the infected flocks.

5. Costs

5.1. Detailed analysis of the costs:

The costs of our BSE monitoring programme cover the costs of the rapid tests used for the laboratory investigations of the

- animals referred to in Annex III, Chapter A, Part I, points 2.1, 3 and 4 of Regulation (EC) 999/2001: 17000 cattle
- animals referred to in Annex III, Chapter A, Part I, points 2.2 of Regulation (EC) 999/2001: 75000 cattle

It means the investigations of 92 000 cattle totally.

The costs of our scrapie monitoring programme cover the costs of the rapid tests used for the laboratory investigations of the

- animals referred to in Annex III, Chapter A, Part II, point 2 of Regulation (EC) 999/2001: 10000 sheep and 150 goats
- animals referred to in Annex III, Chapter A, Part II, point 3 of Regulation (EC) 999/2001: 10000 sheep and 150 goats.
- animals referred to in Annex III, Chapter A, Part II, point 5 of Regulation (EC) 999/2001: 3000 sheep and 150 goats
- Ovine animals referred to in Annex VII, Chapter A, point 3.4(d) of Regulation (EC) No 999/2001: 600 sheep
- Ovine animals referred to in Annex VII, Chapter A, point 5(b)(ii) of Regulation (EC) No 999/2001:100 sheep
- Caprine animals referred to in Annex VII, Chapter A, point 3.3(c) of Regulation (EC) No 999/2001: 60 goats
- Caprine animals referred to in Annex VII, Chapter A, point 5(b)(ii) of Regulation (EC) No 999/2001: 60 goats
- Primary molecular testing referred to in Annex X, Chapter C, point 3.2 (c) (i) of Regulation (EC) 999/2001: minimum 12 and maximum 96 animals with positive in rapid tests. (In case of TeSe Sheep/Goat Western Blot (Bio-Rad) one unit is eligible for the testing of 32 animals as a maximum, but in case rare positive rapid tests results (as in Hungary) it is eligible only investigation of 4 animals. In case of 51.177 Discriminatory test (Bio-Rad) one unit is eligible for the testing of 8 animals as a maximum, but in case rare positive rapid tests results (as in Hungary) it is eligible only investigation of 2 animals.)

It means the monitoring investigations of 23700 ovine and 570 caprine animals (24270 small ruminants) and the primary molecular testing of maximum 96 (minimum 12) animals totally.

During monitoring investigations for TSE the Bio-Rad Platelia (Bio-Rad TeSeE) test has been used from March 2001, therefore we have calculated with the using of the Bio-Rad TeSeE test in the future, too. However, according to our national financial rules it is compulsory to make a call for a tender of the rapid test for 2011. Therefore depending on the result of this tender another rapid test might be used in 2011.

The costs of the genotyping of 11620 sheep referred to in Annex III, Chapter A, Part II, point 8.1 and 8.2 of Regulation (EC) No 999/2001 and referred to in Annex VII, Chapter A, point 2.3 of Regulation (EC) No 999/2001 as well as costs of the genotyping of 5000 sheep under the framework of a breeding programme referred to in Article 6a of Regulation (EC) No 999/2001 are added to the costs of the TSE monitoring investigations.

The costs of the state compensation of 11000 sheep or goats killed due to confirmation of scrapie.

5.2. Summary of the costs (excluding VAT)

Costs related to	Specification	Number of units	Unitary cost in EUR	Total amount in EUR	Community funding requested (yes/no)
1. BSE testing ³					
1.1. Rapid tests	Test: Bio-Rad TeSeE	92 000 sample	5 €	460 000	yes
	Test:				
	Test:				
	Test:				
2. Scrapie testing ⁴					
2.1. Rapid tests	Test: Bio-Rad TeSeE	24270 sample	5 €	121 350	yes
	Test:				
	Test:				
3. Discriminatory testing ⁵					
3.1. Primary molecular tests	Test: TeSe Sheep/Goat Western Blot (Bio-Rad)	3 unit (32 tests/unit)	1 650 €/unit	4 950	yes
	Test: 51.177 Discriminatory test (Bio-Rad)	12 units (8 tests/unit)	715 €/unit	8 580	yes

³ As referred to in point 4.6.1.

⁴ As referred to in points 4.6.2 and 4.6.3.

⁵ As referred to in point 4.6.4.

4. Genotyping			
4.1.	Determination of genotype of animals in the framework of the monitoring and eradication measures laid down by Regulation (EC) No 999/2001 ⁶	Method: microsequencing	
		11 620	11,8€
		5 000	11,8 €
			137 116
			yes
4.2.	Determination of genotype of animals in the framework of a breeding programme ⁷	Method: microsequencing	
		5 000	11,8 €
			59 000
			yes
5. Compulsory Slaughter			
5.1.	Compensation for bovine animals to be killed/slaughtered under the requirements of Annex VII, Chapter A, point 2.1 of Regulation (EC) No 999/2001*		
		0	0
			no
5.2.	Compensation for ovine and caprine animals to be killed/slaughtered under the requirements of Annex VII, Chapter A, point 2.3 of Regulation (EC) No 999/2001		
		11 000	120 €
			1 320 000
			yes
TOTAL			
			2 110 996
			yes

* No data to estimate

⁶ As referred to in points 4.6.5 and 4.7.2.2.

⁷ As referred to in point 4.7.3.2.

Table 1
Histopathological investigations for TSE in Hungary 1989-2000

Year	Cattle		Sheep		Goats	Cats	
	monitoring	neurological signs	all	monitoring			neurological signs
1989-1997	19	1341	1360	8	1596	1664	2373
1998	95	40	135	73	27	100	441
1999	41	82	123	28	72	100	521
2000	113	75	188	63	56	119	496
Total	268	1538	1806	172	1751	1983	3831

All results were negative

* The statistics between 1989 and 1997 did not contain the detailed data regarding goats.

About 1-2 goats were investigated with negative results yearly

Table 2
BSE monitoring investigations in cattle during 2001

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Dead animals over 24 months	Total
Baranya	460	12	11	483
Bács-Kiskun	766	7	48	821
Békés	552	64	59	675
Borsod-Abaúj-Zemplén	513	8	25	546
Csongrád	560	16	27	603
Fejér	440	88	42	570
Győr-Moson-Sopron	629	7	2	638
Hajdú-Bihar	1160	96	151	1407
Heves	401	23	9	433
Jász-Nagykun-Szolnok	679	61	71	811
Komárom-Esztergom	231	15	13	259
Nógrád	133	3	7	143
Pest	541	14	2	557
Somogy	580	55	17	652
Szabolcs-Szatmár-Bereg	581	54	50	685
Tolna	672	188	34	894
Vas	278	7	25	310
Veszprém	254	34	8	296
Zala	391	2	1	394
Altogether	9821	754	602	11177

Notes:

The Bio-Rad Platelia test was used. All results were negative.

Table 3
BSE monitoring investigations in cattle during 2002

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Dead animals over 24 months	Total
Baranya	2932	19	52	3003
Bács-Kiskun	4072	139	82	4293
Békés	4234	193	263	4690
Borsod-Abaúj-Zemplén	3537	34	34	3605
Csongrád	3044	72	106	3222
Fejér	3032	614	42	3688
Győr-Moson-Sopron	5243	444	164	5851
Hajdú-Bihar	5866	427	218	6511
Heves	2605	138	22	2765
Jász-Nagykun-Szolnok	5354	263	178	5795
Komárom-Esztergom	1407	131	88	1626
Nógrád	956	7	16	979
Pest	3032	221	12	3265
Somogy	2366	260	21	2647
Szabolcs-Szatmár-Bereg	4131	98	104	4333
Tolna	2746	264	99	3109
Vas	2910	455	131	3496
Veszprém	3638	612	88	4338
Zala	2188	31	88	2307
Altogether	63293	4422	1808	69523

Notes:

The Bio-Rad Platelia test was used. All results were negative.

Table 4
BSE monitoring investigations in cattle during 2003

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Dead animals over 24 months	Total
Baranya	4210	25	398	4633
Bács-Kiskun	6377	188	215	6780
Békés	5860	350	384	6594
Borsod-Abaúj-Zemplén	4883	54	437	5374
Csongrád	3939	23	189	4151
Fejér	3868	757	665	5290
Győr-Moson-Sopron	7173	479	598	8250
Hajdú-Bihar	9961	205	475	10641
Heves	2193	78	88	2359
Jász-Nagykun-Szolnok	6122	121	292	6535
Komárom-Esztergom	1663	147	106	1916
Nógrád	1207	13	93	1313
Pest	4691	219	251	5161
Somogy	4439	278	143	4860
Szabolcs-Szatmár-Bereg	5567	74	336	5977
Tolna	3520	175	356	4051
Vas	3888	569	533	4990
Veszprém	4313	469	691	5473
Zala	2721	39	282	3042
Alltogether	86595	4263	6532	97390

Notes:
The Bio-Rad Platelia test was used.
All results were negative

Table 5

BSE monitoring investigation in cattle during 2004 in Hungary by counties of origin

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Animals with clinical signs at AM over 24 months	Dead animals over 24 months	Total
Baranya	3355	7	1	654	4017
Bács-Kiskun	4807	119	0	325	5251
Békés	5181	56	2	866	6105
Borsod-Abaúj-Zemplén	4443	44	2	904	5393
Csongrád	3907	26	0	455	4388
Fejér	4904	1082	4	1396	7386
Győr-Ménfőcsanak-Sopron	6982	75	2	1235	8294
Hajdú-Bihar	7375	78	5	691	8349
Heves	1906	7	0	205	2118
Jász-Nagykanizsa-Szolnok	6005	25	0	634	6664
Komárom-Esztergom	1421	385	0	222	2028
Nógrád	999	3	0	163	1165
Pest	5011	280	5	380	5676
Somogy	2999	4	4	509	3516
Szabolcs-Szatmár-Bereg	4399	32	1	531	5163
Tolna	3844	44	1	619	4508
Vas	3522	13	1	766	4302
Veszprém	4117	137	2	1141	5397
Zala	2315	16	3	560	2894
Budapest	112	3	0	7	122
Foreign countries	3280	0	2	1	3283
Alltogether	81284	2436	35	12264	96019

Notes:

Bio-Rad FeStE test was used

All results were negative

Table 6
BSE monitoring investigation in cattle during 2005 in Hungary by counties of origin

Country according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Animals with clinical signs at AM over 24 months	Dead animals over 24 months	Total
Baranya	3118	8	2	875	4003
Bács-Kiskun	3425	146	0	394	3965
Békés	5464	6	0	1199	6669
Borsod-Abaúj-Zemplén	3590	47	1	861	4499
Csongrád	3518	22	0	660	4200
Féjér	4254	932	1	1105	6292
Győr-Ménfőcsanak	6202	138	0	1152	7492
Hajdú-Bihar	6556	127	4	1196	7883
Héves	1500	1	0	187	1688
Jász-Nagykun-Szolnok	5494	37	0	751	6282
Komárom-Esztergom	1338	305	0	214	1857
Nógrád	945	7	0	177	1129
Pest	4004	457	0	459	4920
Somogy	2791	15	1	829	3636
Szabolcs-Szatmár-Bereg	3629	19	0	697	4345
Tolna	2684	15	1	520	3220
Vas	2475	11	0	577	3063
Veszprém	3573	134	0	940	4652
Zala	1999	4	2	459	2464
Budapest	108	28	0	16	152
Foreign countries	1103	0	0	1	1104
Altogether	67770	2464	12	13269	83515

Notes: Bio-Rad TeSeE test was used. All results were negative.

Table 7

BSE monitoring investigation in cattle during 2006 in Hungary by counties of origin

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Animals with clinical signs at AM over 24 months	Dead animals over 24 months	Total
Baranya	3283	6	1	980	4270
Bács-Kiskun	3309	153	1	436	3899
Békés	5050	19	1	1185	6255
Borsod-Abaúj-Zemplén	4040	49	3	807	4899
Csongrád	3852	30	0	608	4490
Fegyér	4128	990	6	1196	6320
Győr-Ménfő-Sopron	5567	154	2	1260	6983
Hajdú-Bihar	7256	114	5	1199	8574
Héves	1482	0	2	199	1683
Jász-Nagykun-Szolnok	5832	10	3	722	6567
Komárom-Esztergom	1089	360	0	361	1810
Nógrád	903	5	0	234	1142
Pest	4174	505	6	561	5246
Somogy	2470	20	0	706	3196
Szabolcs-Szatmár-Bereg	3482	23	2	617	4124
Tolna	2499	48	2	587	3136
Vas	2263	11	0	636	2910
Veszprém	3554	57	2	983	4596
Zala	1748	4	1	500	2253
Budapest	110	21	0	13	144
Foreign countries	1367	0	0	1	1368
Alltogether	67458	2579	37	13791	83865

Notes: Bio-Rad TeSeE test was used. All results were negative.

Table 8
BSE monitoring investigation in cattle during 2007 in Hungary by counties of origin

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Animals with clinical signs at AMI over 24 months	Dead animals over 24 months
Baranya	3097	4	0	783
Bács-Kiskun	4070	45	2	392
Békés	5151	10	1	1167
Borsod-Abaúj-Zemplén	3557	41	0	784
Csongrád	3721	27	0	621
Fejér	3879	655	3	1055
Győr-Ménfő-Sopron	5145	204	2	1269
Hajdú-Bihar	7446	147	0	1180
Héves	1741	2	3	174
Jász-Nagykun-Szolnok	5017	4	2	856
Komárom-Esztergom	1156	182	0	230
Nógrád	884	8	0	248
Pest	4266	494	2	679
Somogy	2321	23	0	692
Szabolcs-Szatmár-Bereg	3298	39	0	658
Tolna	2248	23	0	551
Vás	2301	6	0	699
Veszprém	3585	6	0	939
Zala	1754	4	0	541
Budapest	195	47	0	17
Foreign countries	4497*	0	0	0
Altogether	69440	1971	15	13522

Notes: Bio-Rad TeSeE test was used. In case of a cattle originated from Slovakia the result was positive in September. All other results were negative

Table 9

BSE monitoring investigation in cattle during 2008 in Hungary by counties of origin

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Animals with clinical signs at AM over 24 months	Dead animals over 24 months	Total
Baranya	2727	20	0	739	3486
Bács-Kiskun	4712	57	0	717	5486
Békés	5220	22	0	1162	6404
Borsod-Abaúj-Zemplén	3900	55	1	880	4836
Csongrád	3723	24	0	562	4309
Fejér	4240	344	2	971	5557
Győr-Ménfőcsanak-Sopron	5401	46	0	1342	6789
Hajdú-Bihar	7279	170	1	1144	8594
Héves	1544	2	0	173	1719
Jász-Nagykun-Szolnok	5272	3	3	685	5973
Komárom-Esztergom	1213	77	0	212	1502
Nógrád	878	3	0	251	1132
Pest	4782	474	0	707	5963
Somogy	2596	25	0	667	3288
Szabolcs-Szatmár-Bereg	3325	47	0	737	4109
Tolna	2105	14	1	520	2640
Vas	2482	6	0	691	3179
Veszprém	3791	9	0	995	4795
Zala	1924	2	0	432	2358
Budapest	134	32	0	25	191
Foreign countries	3583	3	0	3	3589
Altogether	70831	1435	8	13625	85899

Notes: Bio-Rad TeSeE tests were used. All results were negative.

Table 10
BSE monitoring investigation in cattle during 2009 in Hungary by counties of origin

County according to the place of origin of the animal	Normal slaughtered animals over 30 months	Emergency slaughtered animals over 24 months	Animals with clinical signs at AM over 24 months	Dead animals over 24 months	Total
Baranya	2942	20	0	786	3747
Bács-Kiskun	5960	36	0	573	6559
Békés	5109	8	0	1161	6278
Borsod-Abaúj-Zemplén	3717	72	8	803	4600
Csongrád	3648	36	0	553	4236
Egyér	4671	203	2	828	5704
Győr-Ménfőcsanak	5233	35	0	1146	6413
Hajdú-Bihar	8306	61	1	1084	9452
Heves	1348	0	1	145	1494
Jász-Nagykun-Szolnok	5379	4	0	643	8026
Komárom-Esztergom	1427	55	1	206	1689
Nógrád	1059	5	0	211	1275
Pest	5187	236	0	579	6002
Somogy	2785	18	0	484	3287
Szabolcs-Szatmár-Bereg	3582	26	3	662	4273
Tolna	2770	14	3	480	3267
Vás	2427	11	0	553	2991
Veszprém	3497	1	0	896	4394
Zala	1750	3	0	344	2097
Budapest	127	29	0	13	169
Foreign countries	4403	0	2	7	4412
Altogether	75317	872	21	12155	88365

Notes: Bio-Rad TeSeE tests were used. All results were negative.

Table 11

Healthy slaughtered ovine animals over 18 months of age tested by rapid test during 2005 in Hungary.

Month	Number of samples	Positive	Negative	Pending
January	95	0	95	0
February	151	0	151	0
March	254	0	254	0
April	139	0	139	0
May	215	0	215	0
June	298	0	298	0
July	243	0	243	0
August	273	0	273	0
September	415	0	415	0
October	351	0	351	0
November	336	0	336	0
December	343	0	343	0
Total	3113	0	3113	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:
 - 10 healthy slaughtered sheep under 18 months of age
 - 10 healthy slaughtered sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 12

Healthy slaughtered ovine animals over 18 months of age tested by rapid test during 2006 in Hungary.

Month	Number of samples	Positive	Negative	Pending
January	191	0	191	0
February	292	0	292	0
March	382	0	382	0
April	816	0	816	0
May	633	0	633	0
June	637	1	636	0
July	592	1	591	0
August	776	0	776	0
September	603	1	602	0
October	423	0	423	0
November	290	0	290	0
December	270	0	270	0
Total	5905	3	5902	0

One positive result was found in June in one sheep originated from Jász-Nagykun county

One positive result was found in July in one sheep originated from Hajdu-Bihar county

One positive result was found in September in a sheep originated from Hajdu-Bihar county, confirmed in October

Table 13
Healthy slaughtered ovine animals over 18 months of age tested by rapid test during 2007 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	223	0	223	0
February	259	0	259	0
March	441	1	440	0
April	750	0	750	0
May	427	1	426	0
June	378	0	378	0
July	509	0	509	0
August	392	0	392	0
September	394	0	394	0
October	248	1	247	0
November	217	0	217	0
December	235	0	235	0
Total	4473	3	4470	0

Positive cases:

In case of an 84 month-old sheep originated from Bács-Kiskun county the result was positive in March.

In case of a 72 month-old sheep originated from Bács-Kiskun county the result was positive in May.

In case of a 24 month-old sheep originated from Bács-Kiskun county the result was positive in October. All other results were negative.

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 12 healthy slaughtered sheep under 18 months of age

- 75 healthy slaughtered sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 14

Healthy slaughtered ovine animals over 18 months of age tested by rapid test during 2008 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	193	0	193	0
February	279	0	279	0
March	1163	1	1162	0
April	592	0	592	0
May	330	0	330	0
June	339	0	339	0
July	319	0	319	0
August	337	0	337	0
September	434	1	433	0
October	367	0	367	0
November	355	0	355	0
December	323	0	323	0
Total	5031	2	5029	0

Positive cases:

- In case of a 156 month-old sheep originated from Hajdú-Bihar county the result was positive in March.
- In case of a 72 month-old sheep originated from Hajdú-Bihar county the result was positive in September.

Over the above mentioned investigations in the frame of the ISE monitoring the following animals were also tested by rapid test with negative results:

- 5 healthy slaughtered sheep under 18 months of age
- 24 healthy slaughtered sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 15
Healthy slaughtered ovine animals over 18 months of age tested by rapid test during 2009 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	204	0	204	0
February	178	1	177	0
March	307	0	307	0
April	543	1	542	0
May	298	3	295	0
June	393	0	393	0
July	279	0	279	0
August	338	1	337	0
September	534	1	533	0
October	343	0	343	0
November	302	1	301	0
December	352	0	352	0
Total	4071	8	4063	0

Positive cases:

- In case of a 49 month-old sheep originated from Hajdú-Bihar county the result was positive in February.
 - In case of a 98 month-old sheep originated from Borsod-Abaúj-Zemplén county the result was positive in April.
 - In case of a 52 month-old sheep originated from Szabolcs-Szatmár-Bereg county the result was positive in May.
 - In case of a 52 month-old sheep originated from Nógrád county the result was positive in May.
 - In case of a 59 month-old sheep originated from Borsod-Abaúj-Zemplén county the result was positive in May.
 - In case of a 115 month-old sheep originated from Hajdú-Bihar county the result was positive in August.
 - In case of a 41 month-old sheep originated from Hajdú-Bihar county the result was positive in September.
 - In case of a 70 month-old sheep originated from Hajdú-Bihar county the result was positive in November.
- Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:
- 1 healthy slaughtered sheep under 18 months of age
 - 29 healthy slaughtered sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 16

Emergency slaughtered ovine animals over 18 months of age tested by rapid test during 2005 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	37	0	37	0
February	22	0	22	0
March	36	0	36	0
April	22	0	22	0
May	21	0	21	0
June	26	0	26	0
July	29	0	29	0
August	33	0	33	0
September	24	0	24	0
October	36	0	36	0
November	38	0	38	0
December	30	0	30	0
Total	354	0	354	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 5 emergency slaughtered sheep under 18 months of age

- 7 emergency slaughtered where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 17

Emergency slaughtered ovine animals over 18 months of age tested by rapid test during 2006 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	29	0	29	0
February	45	0	45	0
March	66	0	66	0
April	36	0	36	0
May	24	0	24	0
June	20	0	20	0
July	37	0	37	0
August	47	0	47	0
September	29	0	29	0
October	24	0	24	0
November	51	0	51	0
December	69	0	69	0
Total	477	0	477	0

Table 18
Emergency slaughtered ovine animals over 18 months of age tested by rapid test during 2007 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	44	0	44	0
February	72	0	72	0
March	68	0	68	0
April	73	0	73	0
May	53	0	53	0
June	36	0	36	0
July	25	0	25	0
August	51	0	51	0
September	84	0	84	0
October	78	0	78	0
November	108	0	108	0
December	72	0	72	0
Total	764	0	764	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 2 emergency slaughtered sheep under 18 months of age
- 4 emergency slaughtered where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 19
Emergency slaughtered ovine animals over 18 months of age tested by rapid test during 2008 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	69	0	69	0
February	72	0	72	0
March	66	0	66	0
April	77	0	77	0
May	46	0	46	0
June	64	0	64	0
July	80	0	80	0
August	51	0	51	0
September	83	0	83	0
October	102	0	102	0
November	75	0	75	0
December	87	0	87	0
Total	872	0	872	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 1 emergency slaughtered sheep under 18 months of age
- 1 emergency slaughtered sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 20
Emergency slaughtered ovine animals over 18 months of age tested by rapid test during 2009 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	43	0	43	0
February	54	0	54	0
March	106	0	106	0
April	103	0	103	0
May	85	0	85	0
June	87	0	87	0
July	71	0	71	0
August	59	0	59	0
September	94	0	94	0
October	83	0	83	0
November	64	0	64	0
December	56	0	56	0
Total	905	0	905	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 2 emergency slaughtered sheep under 18 months of age
- 1 emergency slaughtered sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 21
Dead ovine animals over 18 months of age tested by rapid test during 2005 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	361	0	361	0
February	427	0	427	0
March	465	0	465	0
April	362	0	362	0
May	433	0	433	0
June	337	0	337	0
July	217	0	217	0
August	459	0	459	0
September	528	0	528	0
October	597	0	597	0
November	619	0	619	0
December	678	0	678	0
Total	5483	0	5483	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 6 dead sheep under 18 months of age

- 52 dead sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 22
Dead ovine animals over 18 months of age tested by rapid test during 2006 in Hungary.

Month	Number of samples	Positive	Negative	Pending
January	562	0	562	0
February	686	0	686	0
March	636	0	636	0
April	538	0	538	0
May	487	0	487	0
June	275	2	273	0
July	276	0	276	0
August	369	0	369	0
September	481	0	481	0
October	319	1	318	0
November	436	0	436	0
December	550	1	549	0
Total	5615	4	5611	0

Two positive results were found in June in two sheep originated from Fejér county.

One positive results was found in October in one sheep from Hajdu-Bihar county, confirmed in November

One positive results was found in December in one sheep from Bács-Kiskun county, confirmed in January 2007

Table 23
Dead ovine animals over 18 months of age tested by rapid test during 2007 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	514	0	514	0
February	594	0	594	0
March	804	0	804	0
April	749	1	748	0
May	594	0	594	0
June	500	0	500	0
July	337	0	337	0
August	387	0	387	0
September	502	1	501	0
October	473	0	473	0
November	573	1	572	0
December	655	0	655	0
Total	6682	3	6679	0

Positive cases:

A 96 month-old dead ovine animal originated from Bács-Kiskun county in December 2006. (The confirmation test was carried out in January 2007.)

A 39 month-old dead ovine animal originated from Veszprém county in April.

A 53 month-old dead ovine animal originated from Pest county in September.

A 44 month-old dead ovine animal originated from the TSE infected flock in Veszprém county in November.

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 13 dead sheep under 18 months of age
- 139 dead sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 24

Dead ovine animals over 18 months of age tested by rapid test during 2008 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	803	1	802	0
February	832	1	831	0
March	865	0	865	0
April	728	0	728	0
May	404	1	403	0
June	376	0	376	0
July	469	0	469	0
August	332	0	332	0
September	450	1	449	0
October	564	1	563	0
November	644	1	643	0
December	667	0	667	0
Total	7134	6	7128	0

Positive cases:

- A 62 month-old dead ovine animal originated from Jász-Nagykun-Szolnok county in January.
- A 156 month-old dead ovine animal originated from Pest county in February.
- A 114 month-old dead ovine animal originated from Pest county in May.
- A 67 month-old dead ovine animal originated from Komárom-Esztergom county in September.
- A 50 month-old dead ovine animal originated from Békés county in October.
- A 132 month-old dead ovine animal originated from Bács-Kiskun county in November.

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 9 dead sheep under 18 months of age
- 15 dead sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 25
Dead ovine animals over 18 months of age tested by rapid test during 2009 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	766	1	765	0
February	787	1	786	0
March	827	1	826	0
April	831	1	830	0
May	393	0	393	0
June	469	0	469	0
July	442	0	442	0
August	300	0	300	0
September	358	0	358	0
October	389	1	388	0
November	487	1	486	0
December	671	0	671	0
Total	6720	6	6714	0

Positive cases:

- A 39 month-old dead ovine animal originated from Fejér county in January.
- A 65 month-old dead ovine animal originated from Fejér county in February.
- A 117 month-old dead ovine animal originated from Heves county in March.
- A 69 month-old dead ovine animal originated from Fejér county in April.
- A 160 month-old dead ovine animal originated from Heves county in October.
- A 49 month-old dead ovine animal originated from Bács-Kiskun county in November.

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 4 dead sheep under 18 months of age

• 8 dead sheep where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 26

Healthy slaughtered caprine animals over 18 months of age tested by rapid test during 2005 in Hungary.

Month	Number of samples	Positive	Negative	Pending
January	13	0	13	0
February	4	0	4	0
March	1	0	1	0
April	1	0	1	0
May	0	0	0	0
June	29	0	29	0
July	1	0	1	0
August	0	0	0	0
September	0	0	0	0
October	0	0	0	0
November	1	0	1	0
December	3	0	3	0
Total	53	0	53	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:
 - 1 healthy slaughtered goat under 18 months of age

Table 27
Healthy slaughtered caprine animals over 18 months of age tested by rapid test during 2006 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	1	0	1	0
February	1	0	1	0
March	0	0	0	0
April	2	0	2	0
May	17	0	17	0
June	11	0	11	0
July	3	0	3	0
August	0	0	0	0
September	0	0	0	0
October	7	0	7	0
November	2	0	2	0
December	1	0	1	0
Total	45	0	45	0

Table 28

Healthy slaughtered caprine animals over 18 months of age tested by rapid test during 2007 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	1	0	1	0
February	11	0	11	0
March	11	0	11	0
April	4	0	4	0
May	5	0	5	0
June	6	0	6	0
July	64	0	64	0
August	12	0	12	0
September	0	0	0	0
October	0	0	0	0
November	1	0	1	0
December	4	0	4	0
Total	119	0	119	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:
 - 2 healthy slaughtered goats under 18 months of age

Table 29
Healthy slaughtered caprine animals over 18 months of age tested by rapid test during 2008 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	4	0	4	0
February	2	0	2	0
March	12	0	12	0
April	1	0	1	0
May	3	0	3	0
June	2	0	2	0
July	0	0	0	0
August	2	0	2	0
September	0	0	0	0
October	9	0	9	0
November	2	0	2	0
December	5	0	5	0
Total	42	0	42	0

Table 30
Healthy slaughtered caprine animals over 18 months of age tested by rapid test during 2009 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	18	0	18	0
February	3	0	3	0
March	6	0	6	0
April	5	0	5	0
May	7	0	7	0
June	3	0	3	0
July	2	0	2	0
August	1	0	1	0
September	7	0	7	0
October	1	0	1	0
November	1	0	1	0
December	22	0	22	0
Total	76	0	76	0

Table 31
Emergency slaughtered caprine animals over 18 months of age tested by rapid test during 2005 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	0	0	0	0
February	2	0	2	0
March	1	0	1	0
April	1	0	1	0
May	0	0	0	0
June	0	0	0	0
July	2	0	2	0
August	1	0	1	0
September	4	0	4	0
October	2	0	2	0
November	3	0	3	0
December	5	0	5	0
Total	21	0	21	0

Table 32

Emergency slaughtered caprine animals over 18 months of age tested by rapid test during 2006 in Hungary.

Month	Number of samples	Positive	Negative	Pending
January	1	0	1	0
February	7	0	7	0
March	8	0	8	0
April	0	0	0	0
May	1	0	1	0
June	0	0	0	0
July	0	0	0	0
August	0	0	0	0
September	1	0	1	0
October	5	0	5	0
November	0	0	0	0
December	3	0	3	0
Total	26	0	26	0

Table 33
Emergency slaughtered caprine animals over 18 months of age tested by rapid test during 2007 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	3	0	3	0
February	1	0	1	0
March	5	0	5	0
April	0	0	0	0
May	0	0	0	0
June	3	0	3	0
July	0	0	0	0
August	3	0	3	0
September	6	0	6	0
October	0	0	0	0
November	1	0	1	0
December	3	0	3	0
Total	25	0	25	0

Table 34
Emergency slaughtered caprine animals over 18 months of age tested by rapid test during 2008 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	3	0	3	0
February	3	0	3	0
March	1	0	1	0
April	2	0	2	0
May	0	0	0	0
June	2	0	2	0
July	2	0	2	0
August	1	0	1	0
September	2	0	2	0
October	2	0	2	0
November	1	0	1	0
December	1	0	1	0
Total	20	0	20	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 1 emergency slaughtered caprine animal where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 35
Emergency slaughtered caprine animals over 18 months of age tested by rapid test during 2009 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	2	0	2	0
February	2	0	2	0
March	2	0	2	0
April	2	0	2	0
May	4	0	4	0
June	1	0	1	0
July	1	0	1	0
August	0	0	0	0
September	0	0	0	0
October	1	0	1	0
November	3	0	3	0
December	1	0	1	0
Total	19	0	19	0

Table 36
Dead caprine animals over 18 months of age tested by rapid test during 2005 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	21	0	21	0
February	13	0	13	0
March	28	0	28	0
April	18	0	18	0
May	19	0	19	0
June	9	0	9	0
July	4	0	4	0
August	14	0	14	0
September	16	0	16	0
October	7	0	7	0
November	13	0	13	0
December	11	0	11	0
Total	173	0	173	0

Over the above mentioned investigations in the frame of the ISE monitoring the following animals were also tested by rapid test with negative results:

- 1 dead goat under 18 months of age
- 3 dead goats where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 37

Dead caprine animals over 18 months of age tested by rapid test during 2006 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	12	0	12	0
February	13	0	13	0
March	21	0	21	0
April	10	0	10	0
May	16	0	16	0
June	7	0	7	0
July	2	0	2	0
August	2	0	2	0
September	5	0	5	0
October	4	0	4	0
November	5	0	5	0
December	23	0	23	0
Total	120	0	120	0

Table 38
Dead caprine animals over 18 months of age tested by rapid test during 2007 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	14	0	14	0
February	26	0	26	0
March	47	0	47	0
April	27	0	27	0
May	10	0	10	0
June	44	0	44	0
July	7	0	7	0
August	9	0	9	0
September	15	0	15	0
October	14	0	14	0
November	27	0	27	0
December	18	0	18	0
Total	258	0	258	0

Over the above mentioned investigations in the frame of the TSE monitoring the following animals were also tested by rapid test with negative results:

- 1 dead goat where the age of the animal could not be found out on the basis of the document accompanying the sample

Table 39
Dead caprine animals over 18 months of age tested by rapid test during 2008 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	20	0	20	0
February	27	0	27	0
March	27	0	27	0
April	20	0	20	0
May	17	0	17	0
June	7	0	7	0
July	6	0	6	0
August	9	0	9	0
September	10	0	10	0
October	25	0	25	0
November	17	0	17	0
December	31	0	31	0
Total	216	0	216	0

Table 40
Dead caprine animals over 18 months of age tested by rapid test during 2009 in Hungary

Month	Number of samples	Positive	Negative	Pending
January	29	0	29	0
February	21	0	21	0
March	32	0	32	0
April	17	0	17	0
May	6	0	6	0
June	11	0	11	0
July	10	0	10	0
August	15	0	15	0
September	18	0	18	0
October	11	0	11	0
November	14	0	14	0
December	11	0	11	0
Total	195	0	195	0

Table 41
The genotypes of sheep sampled in accordance with chapter A, Part II, points 8.2 during 2006 in Hungary

NSP classification	Breed	HM	GMM	ML	GBH	SUF	TEX	ILE	CHA	AWA	DCI	LAC	BMS	BTE	CIG	CIK	RAC	TR	Altogether	
																			genotypes	NSP
NSP1	ARR/ARR	77	30	2	5	6	4	31	0	0	0	16	0	0	0	0	7	4	182	182
	ARR/ARQ	57	30	23	12	19	5	14	5	0	3	15	0	3	6	0	12	5	209	272
NSP2	ARR/ARH	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8	0	13	13
	ARR/AHQ	7	20	5	2	4	0	0	0	0	0	0	0	1	0	0	11	0	50	50
NSP3	VRR/ARQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ARQ/ARQ	11	10	6	3	7	2	3	2	2	0	0	0	2	0	0	8	4	60	60
NSP3 (others)	AHQ/AHQ	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	12	12
	ARH/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
	ARH/ARQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	5
	AHQ/ARH	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	8	0	14	14
	AHQ/ARQ	4	22	0	0	0	0	2	0	0	0	3	0	0	0	0	7	0	38	38
NSP4	ARR/VRQ	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5	5
NSP5	ARQ/VRQ	0	0	0	0	0	0	0	4	0	1	0	0	0	0	0	2	0	7	7
	ARH/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
	AHQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
	VRQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		156	114	39	22	41	16	53	11	2	4	34	0	6	6	83	13	600	600	

Table 42

The genotypes of sheep sampled in accordance with chapter A, Part II, points 8.2 during 2007 in Hungary

NSP classification	Breed	Number of samples																Aithoggether Genotypes NSP
		Hungarian	German	Merino	German	Suffolk	Texel	Ile de France	Charollais	Dairy	Lacaune	British	Bábolna	Isigai	Hungarian	Trans-		
	Genotypes	Mutton	Land-	Black	Headed							Milk-	Tetra	Racke	Sylvanian	Racke		
NSP1	ARR/ARR	24	33	2	28	16	6	32	0	0	18	1	4	5	3	177		
NSP2	ARR/ARQ	64	38	8	15	24	6	13	3	1	19	2	1	14	6	221		
	ARR/ARH	3	0	0	0	0	0	0	0	1	0	0	0	1	2	7		
	ARR/AHQ	5	9	0	0	2	0	0	0	0	2	2	0	0	8	29		
	VRR/ARQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
NSP3	ARQ/ARQ	20	9	5	5	8	2	2	3	5	1	2	0	7	4	79		
NSP3 (others)	AHQ/AHQ	0	0	1	0	0	0	0	0	0	0	5	1	0	5	12		
	ARH/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	ARH/ARQ	0	1	0	0	0	2	0	0	3	0	0	0	0	4	12		
	AHQ/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2		
	AHQ/ARQ	3	9	4	0	0	1	0	0	0	0	8	1	1	7	35		
	ARR/VRQ	0	0	0	2	0	2	3	0	4	0	0	0	1	0	0	13	
NSP5	ARQ/VRQ	1	1	0	0	0	1	0	0	0	0	0	0	1	4	8		
	ARH/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
	AHQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3		
	VRQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1		
Total		120	100	20	50	50	20	50	10	10	40	20	10	30	50	20	600	

Table 43

The genotypes of sheep sampled in accordance with chapter A, Part II, points 8.2 during 2008 in Hungary

NSP classification	Breed	Number of samples														Altogether		
		Hungarian Merino	German Mutton Merino	Merino Land-schal	German Black Headed	Suffolk	Taxel	Île de France	Charollais	Dairy Tsigei	Lacaune	British Milk-sheep	Bébolina Tetra	Tsigei	Hungarian Racka	Trans-sylvanian Racka	Genotypes	NSP
NSP1	ARR/ARR	35	36	2	36	14	6	18	1	1	9	2	5	8	9	0	182	182
NSP2	ARR/ARQ	49	32	14	11	25	9	23	3	7	23	2	2	14	14	6	234	234
	ARR/ARH	1	0	0	0	1	1	2	0	1	0	0	1	0	2	0	9	9
	ARR/AHQ	8	11	1	0	4	0	2	0	0	4	12	0	0	4	0	46	46
NSP3	ARQ/ARQ	23	8	2	3	4	2	3	4	1	4	0	0	6	5	8	73	73
NSP3 (others)	AHQ/AHQ	0	1	0	0	0	0	0	0	0	0	1	0	0	3	0	5	5
	ARH/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	ARH/ARQ	0	0	0	0	0	2	0	0	0	0	0	0	0	3	1	6	6
	AHQ/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	AHQ/ARQ	2	10	1	0	2	0	0	0	0	0	3	1	1	5	2	27	27
NSP4	ARR/VRQ	2	1	0	0	0	0	2	0	0	0	0	0	1	0	0	6	6
NSP5	ARQ/VRQ	0	1	0	0	0	0	0	2	0	0	0	1	0	2	3	9	9
	ARH/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
	AHQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
	VRQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		120	100	20	50	50	20	50	10	10	40	20	10	30	50	20	600	600

Table 44

The genotypes of sheep sampled in accordance with chapter A, Part II, points 8.2 during 2009 in Hungary

b	Breed														TR	Altogether
	Genotypes	HM	GMM	ML	GBH	SUF	TEX	ILE	CHA	DCI	LAC	BMS	BTE	CIG		
NSP1	ARR/ARR	36	47	3	19	28	9	34	3	0	20	3	2	3	7	214
NSP2	ARR/ARQ	54	29	10	28	13	8	9	4	2	16	5	1	15	7	210
	ARR/ARH	0	1	0	0	1	1	0	0	0	0	0	0	0	3	6
	ARR/AHQ	5	10	1	0	2	0	1	1	0	1	5	0	1	5	33
NSP3	ARQ/ARQ	18	5	6	2	5	0	1	2	5	3	1	3	7	8	75
	AHQ/AHQ	0	3	0	0	0	0	0	0	0	0	3	0	0	2	8
	ARH/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
NSP4	ARH/ARQ	1	1	0	0	0	0	0	0	3	0	0	0	0	1	6
	AHQ/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
	AHQ/ARQ	4	4	0	1	1	0	0	0	0	0	3	3	2	8	26
NSP5	ARR/VRQ	0	0	0	0	0	2	5	0	0	0	0	0	0	1	9
	ARQ/VRQ	2	0	0	0	0	0	0	0	0	0	0	0	2	4	1
	ARH/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	VRQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
		120	100	20	50	50	20	50	10	10	40	20	10	30	50	600

HM	Hungarian Merino	BMS	British Milk sheep
GMM	German Mutton Merino	DCI	Dairy Tsigai
ML	Merino Landschat	BTE	Babolna Tetra
GBH	German Blackhead Mutton Sheep	CIG	Tsigai
SUF	Suffolk	CIK	Cikta
TEX	Texel	RAC	Hungarian Racka
ILE	Ile de France	TR	Transylvanian Racka
CHA	Charollais		
LAC	Lacaune		
AWA	Awassi		

Table 45
Sheep genotyped under the framework of a breeding programme as established in Commission Decision 2003/100/EC during 2006 in Hungary

NSP classification	Breed	HM	GMM	ML	GBH	SUF	TEX	ILE	CHA	AWA	DCJ	LAC	BMS	BTE	CIG	CIK	RAC	TR	Altogether	
																			genotypes	NSP
NSP1	ARR/ARR	177	216	35	86	124	23	146	9	0	1	89	1	8	22	0	80	13	1030	1030
NSP2	ARR/ARQ	332	302	111	122	200	41	79	18	1	19	119	0	13	27	0	145	6	1535	2125
	ARR/ARH	8	3	4	2	18	14	5	0	2	2	3	2	4	15	0	54	4	140	
	ARR/AHQ	48	149	32	3	22	6	4	1	0	0	39	0	7	134	0	0	5	450	
	VRR/ARQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NSP3	ARQ/ARQ	116	87	64	24	46	18	6	14	5	7	19	0	4	25	0	59	28	522	522
NSP3 (others)	AHQ/AHQ	3	7	3	0	1	0	0	0	0	0	11	0	0	0	0	49	0	74	74
	ARH/ARH	0	2	0	0	3	1	0	0	2	0	0	0	3	3	0	8	11	33	
	ARH/ARQ	16	0	4	3	12	8	9	0	8	6	0	0	3	8	0	29	0	106	
	AHQ/ARH	3	0	3	0	0	2	0	0	0	0	0	0	1	4	0	47	0	60	
	AHQ/ARQ	31	74	9	1	17	2	5	2	2	0	2	20	0	6	0	120	3	301	
NSP4	ARR/VRQ	11	10	0	2	3	8	42	8	1	2	1	1	3	4	0	24	1	121	121
NSP5	ARQ/VRQ	10	11	2	0	3	8	6	10	0	0	0	0	0	4	0	1	0	55	78
	ARH/VRQ	1	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	5	
	AHQ/VRQ	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	15	0	17	
	VRQ/VRQ	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Total		756	862	268	243	450	131	304	62	19	40	301	5	55	252	0	631	71	4450	4450

Table 46
Sheep genotyped under the framework of a breeding programme as established in Commission Decision 2003/100/EC during 2007 in Hungary

NSP classification	Breed Genotypes	HM	GMM	ML	GBH	SUF	TEX	ILE	CHA	DCI	LAC	BMS	BTE	CIG	CIK	RAC	TR	Altogether	
																		genotypes	NSP
NSP1	ARR/ARR	189	199	57	114	159	18	194	14	0	115	3	5	4	0	23	5	1099	1099
	ARR/ARQ	403	234	133	110	218	31	75	30	16	132	5	3	13	5	33	27	1468	
	ARR/ARH	8	1	2	1	8	3	0	0	2	0	0	0	0	0	10	0	35	1744
	ARR/AHQ	31	91	28	1	32	0	5	3	0	10	8	0	2	0	28	2	241	
NSP3	ARQ/ARQ	177	65	94	24	65	9	9	10	10	17	12	7	12	22	27	17	577	577
	AHQ/AHQ	1	10	2	0	0	0	0	0	0	1	2	1	0	0	7	0	24	
	ARH/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	ARH/ARQ	6	1	1	1	4	4	0	0	6	0	0	2	0	0	10	0	35	259
	AHQ/ARH	1	0	0	0	0	4	0	0	0	0	0	0	0	0	3	0	8	
	AHQ/ARQ	39	54	22	0	26	1	1	2	0	10	13	2	1	6	13	2	192	
NSP4	ARR/VRQ	11	5	0	1	2	6	18	10	2	0	0	2	1	0	2	0	60	60
	ARQ/VRQ	6	4	0	1	0	1	5	9	1	1	0	5	0	0	3	0	36	
NSP5	ARH/VRQ	0	0	0	0	0	1	0	0	0	0	0	2	0	0	3	0	6	
	AHQ/VRQ	2	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	7	52
	VRQ/VRQ	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	3	
Total		874	664	339	253	514	78	307	79	37	286	43	32	33	166	53	3791	3791	

Table 47
Sheep genotyped under the framework of a breeding programme referred to in Article 6a of Regulation (EC) No 999/2001 during 2008 in Hungary*

NSP classification	Genotypes/Breeds	HM	GMM	ML	GBH	SUF	TEX	ILE	CHA	DCI	LAC	BMS	BTE	CIG	CIK	RAC	TR	BS	infected flocks	Altogether
NSP1	ARR/ARR	306	242	51	112	162	21	167	19	2	115	9	34	3	0	26	3	0	1407	2679
	ARR/ARQ	593	212	148	58	222	19	109	48	18	116	9	20	12	2	28	13	1	2680	4308
	ARR/ARH	32	0	2	0	18	2	0	0	2	0	0	1	0	0	6	1	0	70	134
	ARR/AHQ	52	66	19	0	30	1	7	0	1	16	24	1	1	1	41	0	0	333	593
NSP3	ARQ/ARQ	316	75	57	4	46	4	16	20	9	23	2	9	0	9	17	13	0	1394	2014
	AHQ/AHQ	1	2	2	0	0	0	0	0	0	1	19	0	0	0	8	0	0	21	54
	ARH/ARH	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5
	ARH/ARQ	28	0	1	0	7	2	0	0	2	0	0	4	0	0	7	0	0	63	114
NSP4	AHQ/ARH	2	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	8	16
	AHQ/ARQ	45	34	7	0	11	0	0	0	0	8	17	1	0	3	20	3	0	329	476
	ARR/ARQ	17	4	4	2	2	1	21	8	2	1	1	1	1	1	0	8	0	77	150
	ARQ/ARQ	19	2	2	0	0	0	8	11	1	0	0	3	0	0	5	5	0	99	155
NSP5	ARH/ARQ	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5
	AHQ/ARQ	2	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	11	17
	VRQ/ARQ	2	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	5	10
	ARR/ARK	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	20
Other	AHQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
	ARH/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
	ARQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
	ARK/ARQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	ARR/ARR	306	242	51	112	162	21	167	19	2	115	9	34	3	0	26	3	0	1407	2679
	ARR/ARQ	593	212	148	58	222	19	109	48	18	116	9	20	12	2	28	13	1	2680	4308
Total	ARR/ARH	32	0	2	0	18	2	0	0	2	0	0	1	0	0	6	1	0	70	134
	ARR/AHQ	52	66	19	0	30	1	7	0	1	16	24	1	1	1	41	0	0	333	593
Total	ARQ/ARQ	316	75	57	4	46	4	16	20	9	23	2	9	0	9	17	13	0	1394	2014
	AHQ/AHQ	1	2	2	0	0	0	0	0	0	1	19	0	0	0	8	0	0	21	54
Total	ARH/ARH	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5
	ARH/ARQ	28	0	1	0	7	2	0	0	2	0	0	4	0	0	7	0	0	63	114
Total	AHQ/ARH	2	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	8	16
	AHQ/ARQ	45	34	7	0	11	0	0	0	0	8	17	1	0	3	20	3	0	329	476
Total	ARR/ARQ	17	4	4	2	2	1	21	8	2	1	1	1	1	1	0	8	0	77	150
	ARQ/ARQ	19	2	2	0	0	0	8	11	1	0	0	3	0	0	5	5	0	99	155
Total	ARH/ARQ	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5
	AHQ/ARQ	2	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	11	17
Total	VRQ/ARQ	2	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	5	10
	ARR/ARK	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	20
Total	AHQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
	ARH/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	ARQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
	ARK/ARQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	ARQ/TRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	ARR/ARR	306	242	51	112	162	21	167	19	2	115	9	34	3	0	26	3	0	1407	2679
Total	ARR/ARQ	593	212	148	58	222	19	109	48	18	116	9	20	12	2	28	13	1	2680	4308
	ARR/ARH	32	0	2	0	18	2	0	0	2	0	0	1	0	0	6	1	0	70	134
Total	ARR/AHQ	52	66	19	0	30	1	7	0	1	16	24	1	1	1	41	0	0	333	593
	ARQ/ARQ	316	75	57	4	46	4	16	20	9	23	2	9	0	9	17	13	0	1394	2014
Total	AHQ/AHQ	1	2	2	0	0	0	0	0	0	1	19	0	0	0	8	0	0	21	54
	ARH/ARH	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	5
Total	ARH/ARQ	28	0	1	0	7	2	0	0	2	0	0	4	0	0	7	0	0	63	114
	AHQ/ARH	2	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	8	16
Total	AHQ/ARQ	45	34	7	0	11	0	0	0	0	8	17	1	0	3	20	3	0	329	476
	ARR/ARQ	17	4	4	2	2	1	21	8	2	1	1	1	1	1	0	8	0	77	150
Total	ARQ/ARQ	19	2	2	0	0	0	8	11	1	0	0	3	0	0	5	5	0	99	155
	ARH/ARQ	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5
Total	AHQ/ARQ	2	0	0	0	0	0	2	0	0	0	1	0	0	0	1	0	0	11	17
	VRQ/ARQ	2	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	5	10
Total	ARR/ARK	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	20
	AHQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Total	ARH/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
	ARQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
Total	ARK/ARQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
	ARQ/TRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1

* Table includes genotyping data of the infected flocks, too.

Explanation of abbreviations used in the tables for genotyping

HM	Hungarian Merino
GMM	German Mutton Merino
ML	Merino Landschaf
GBH	German Blackhead Mutton Sheep
SUF	Suffolk
TEX	Texel
ILE	Ile de France
CHA	Charollais
LAC	Lacaune
AWA	Awaassi
BMS	British Milk Sheep
DCI	Dairy Tsigai
BTE	Babolna Tetra
CIG	Tsigai
CIK	Cikta
RAC	Hungarian Racka
TR	Transsylvanian Racka
BS	Bergschaf

Table 48
 Sheep genotyped under the framework of a breeding programme referred to in Article 6a of Regulation (EC) No 999/2001
 during 2009 in Hungary

NSP classification	Genotypes/Breeds	HM	GMM	ML	BER	GBH	SUF	TEX	ILE	CHA	DOP	DCI	LAC	BMS	BTE	CIG	CIK	RAC	TR	infected flocks	Altogether
NSP1	ARR/ARR	284	293	39	36	109	190	10	362	50	1	1	288	4	2	10	0	90	8	1731	3508
	ARR/ARQ	374	253	112	11	49	201	2	110	82	4	2	159	8	6	19	1	52	34	3456	4935
	ARR/ARH	13	6	2	0	0	13	3	1	1	0	0	1	0	2	1	0	12	0	217	271
	ARR/AHQ	41	91	12	0	4	37	0	9	3	0	0	29	5	1	1	0	63	2	356	654
NSP3	ARQ/ARQ	135	47	78	3	3	32	0	3	22	23	1	12	1	5	15	3	32	39	1834	2288
	AHQ/AHQ	1	5	1	0	0	0	0	0	2	0	0	0	4	0	0	0	17	0	20	50
	ARH/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	12	17
	ARH/ARQ	6	20	2	0	0	0	0	0	0	0	0	2	0	3	0	0	7	0	203	243
	AHQ/ARH	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	7	0	17	25
	AHQ/ARQ	30	1	14	0	2	15	0	1	2	0	0	0	6	2	3	3	1	29	4	357
NSP4	ARR/VRQ	8	6	0	0	4	3	0	37	7	3	0	0	0	1	1	0	5	5	149	229
	ARQ/VRQ	6	7	0	0	1	0	0	0	3	5	1	0	0	3	2	0	3	2	152	185
NSP5	ARH/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	8
	AHQ/VRQ	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	19	27
	VRQ/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
	ARR/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
Other	AHQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5
	ARH/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	ARQ/ARK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
	ARK/VRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	ARQ/TRQ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		898	730	261	50	172	491	15	523	172	36	5	497	24	27	52	5	327	95	8559	12939

HM Hungarian Merino
 GMM German Mutton Merino
 ML Merino Landschaf
 BER Berrichon du cher
 CHA Charollais
 DOP Dorper
 LAC Lacaune
 BMS British Milkshoop
 RAC Hungarian Racka
 TR Transsylvanian Racka

GBH	German Blackhead Mutton Sheep	DCI	Dairy Tsigai
SUF	Suffolk	BTE	Babolna Tetra
TEX	Texel	CIG	Tsigai
ILE	Ile de France	CIK	Cikla

Table 49
Confirmed scrapie cases in Hungary (domestic sheep population) in 2006

Case No	County	Name of the farm/owner	Subgroup of animal	Positive rapid test	Positive confirmatory test	Discriminatory test (CEA WB)	Genotype	Killing
2006/1	Fejér	Kovács Zoltán	Dead, 85 months	Bio-Rad TeSeE, 2 June 2006	(histopathology and immunocytochemistry) 23 June 2006	classical form of scrapie	ARH/ARQ	The whole flock was killed
2006/2	Fejér	Kovács Zoltán	Dead, 125 months	Bio-Rad TeSeE, 2 June 2006	(histopathology and immunocytochemistry) 23 June 2006	classical form of scrapie	ARQ/VRQ	The whole flock was killed
2006/3	Jász-Nagykun-Szolnok	Jász-Ovin Kft.	Healthy slaughter, 60 months	Bio-Rad TeSeE, 16 June 2006	histopathology and immunocytochemistry) 29 June 2006	atypical	ARR/AHQ	The whole flock was killed
2006/4	Hajdu-Bihar	Lamb & Land Kft.	Healthy slaughter, 37 months	Bio-Rad TeSeE, 7 July 2006	Immunoblotting 20 July 2006	atypical	Not known*	The whole flock was killed
2006/5	Hajdu-Bihar	Kati László	Healthy slaughter, 72 months	Bio-Rad TeSeF, 29 September 2006	Immunoblotting 10 October 2006	atypical	Not known*	The whole flock was killed
2006/6	Hajdu-Bihar	Hortobágyi Természeti- és Génmegőrző KFT.	Dead, 96 months	Bio-Rad TeSeE, 31 October 2006	Immunoblotting 9 November 2006	atypical	ARR/AHQ	Killing after genotyping

* The results of the genotyping was not appreciable.

Table 50
Confirmed scrapie cases in Hungary (domestic sheep population) in 2007

Case No	County	Name of the farm/owner	Subgroup of animal	Positive rapid test	Positive confirmatory test	Discriminatory test (CEA WB)	Genotype	Killing
2007/1	Bács-Kiskun (Kunszentmiklós)	Gajár János	Dead, 96 months	Bio-Rad TeSeE, 20 December 2006	Immunoblotting 8 January 2007	atypical	ARQ/ARQ	Killing after genotyping
2007/2	Bács-Kiskun (Dunavecse)	Gulyás György	Healthy slaughtered, 84 months	Bio-Rad TeSeE, 2 March 2007	Immunoblotting 14 March 2007	Classical form of scrapie	ARR/ARQ	Killing after genotyping
2007/3	Veszprém (Hajmáskér)	Palota-Mező Kft	Dead, 39 months	Bio-Rad TeSeE, 20 April 2007	Immunoblotting 9 May 2007	atypical	ARQ/ARQ	Killing after genotyping
2007/4	Bács-Kiskun (Tiszaug)	Szöke Tisza Fogy. Outhona	Healthy slaughtered, 72 months	Bio-Rad TeSeE, 18 May 2007	Immunoblotting 1 June 2007	Classical form of scrapie	ARR/ARQ	Killing after genotyping
2007/5	Pest (Dömsöd)	Bak Gábor	Dead, 53 months	Bio-Rad TeSeE, 13 September 2007	<i>Immunocytochemistry</i> 21 September 2007 Immunoblotting 26 September 2007	Classical form of scrapie	ARR/ARQ	Killing after genotyping
2007/6	Bács-Kiskun (Jász-szentlászló)	Ritka Mátvás	Healthy slaughtered, 24 months	Bio-Rad TeSeE, 19 October 2007	<i>Immunocytochemistry</i> 24 October 2007 Immunoblotting 7 November 2007	atypical	ARR/AHQ	There was no other animal on the farm.
2007/7	Pest (Dömsöd)	Bak Gábor	Culled for destruction, 62 months	Bio-Rad TeSeE, 24 October 2007	<i>Immunocytochemistry</i> 6 November 2007 Immunoblotting 7 November 2007	atypical	ARQ/ARQ	Killing after genotyping
2007/8	Veszprém (Hajmáskér)	Palota-Mező Kft	Dead, 44 months	Bio-Rad TeSeE, 22 November 2007	<i>Immunocytochemistry</i> 4 December 2007 Immunoblotting 5 December 2007	Classical form of scrapie	ARQ/ARQ	Killing after genotyping

Table 51
Confirmed scrapie cases in Hungary (domestic sheep population) in 2008

Case No	County	Name of the farm/owner	Subgroup of animal	Positive rapid test	Positive confirmatory test	Discriminatory test (CEA WB)	Genotype	Killing
2008/1	Jász-Nagykun-Szolnok (Liszafüred)	Kapás Kft.	Dead, 62 months	Bio-Rad TeSeE, 16 January 2008	<i>Immunocytochemistry</i> 18 January 2008 <i>Immunoblotting</i> 04 February 2008	Classical form of scrapie	ARQ/ARQ	The whole flock was killed.
2008/2	Veszprém (Hajmáskér)	Palota-Mező Kft	Culled for destruction, 96 months	Bio-Rad TeSeE, 18 February 2008	<i>Immunocytochemistry</i> 28 February 2008 <i>Immunoblotting</i> 07 March 2008	Atypical scrapie	ARQ/ARR	Killing after genotyping.
2008/3	Pest (Kocsér)	Petőfi Mg. Szövetkezet.	Dead, 156 months	Bio-Rad TeSeE, 21 February 2008	<i>Immunocytochemistry</i> 28 February 2008 <i>Immunoblotting</i> 07 March 2008	Atypical scrapie	ARR/ARR	The whole flock was killed.
2008/4	Hajdú-Bihar (Tiszagyula-háza)	Megyesi Elemér	Healthy slaughtered, 156 months	Bio-Rad TeSeE, 21 March 2008	<i>Immunocytochemistry</i> 26 March 2008 <i>Immunoblotting</i> 04 April 2008	Atypical scrapie	ARQ/ARR	Killing after genotyping.
2008/5	Pest (Vecsés)	Iő. Apró Mihály	Dead, 114 months	Bio-Rad TeSeE, 26 May 2008	<i>Immunocytochemistry</i> 27 May 2008 <i>Immunoblotting</i> 05 June 2008	Atypical scrapie	ARR/ARQ	Killing after genotyping.
2008/6	Komárom-Esztergom (Oroszlány)	Baranya József	Dead, 67 months	Bio-Rad TeSeE, 01 September 2008	<i>Immunocytochemistry</i> 12 September 2008 <i>Immunoblotting</i> 10 September 2008	Atypical scrapie	ARR/ARR	Killing after genotyping.
2008/7	Hajdú-Bihar (Sárrétudvari)	Bodó Gyula	Healthy slaughtered, 72 months	Bio-Rad TeSeE, 29 September 2008	<i>Immunocytochemistry</i> 02 October 2008 <i>Immunoblotting</i> 07 October 2008	Atypical scrapie	ARR/ARR	Killing after genotyping.

2008/8	Békés (Békés)	Török Sándor	Dead, 50 months	Bio-Rad TeSeE, 28 October 2008	<i>Immunocytochemistry</i> 29 October 2008 Immunoblotting 06 November 2008	Atypical scrapie	ARQ/ARQ	Killing after genotyping.
2008/9	Bács-Kiskun (Kunszentmiklós)	Major László	Dead, 132 months	Bio-Rad TeSeE, 20 November 2008	<i>Immunoblotting</i> 04 December 2008	Atypical scrapie	ARR/AHQ	Killing after genotyping.

Table 52
Confirmed scrapie cases in Hungary (domestic sheep population) in 2009

Case No	County	Name of the farm/owner	Subgroup of animal	Positive rapid test	Positive confirmatory test	Discriminatory test (CEA WB)	Genotype	Killing
2009/1	Fejér (Csákszerény)	Id. Lákics János	Dead, 39 months	Bio-Rad TeSeE, 22 January 2009	<i>Immunocytochemistry</i> 30 January 2009 <i>Immunoblotting</i> 05 February 2009	Classical form of scrapie	ARR/AHQ	The whole flock was killed.
2009/2	Hajdú-Bihar (Hortobágy)	Hortobágyi Kht.	Healthy slaughtered, 49 months	Bio-Rad TeSeE, 11 February 2009	<i>Immunocytochemistry</i> 13 February 2009 <i>Immunoblotting</i> 02 March 2009	Atypical scrapie	ALRH/ALH Q	The whole flock was killed.
2009/3	Fejér (Csákszerény)	Ifj. Lákics János	Dead, 65 months	Bio-Rad TeSeE, 17 February 2009	<i>Immunocytochemistry</i> 04 March 2009 <i>Immunoblotting</i> 26 February 2009	Atypical scrapie	AHQ/AHQ	The whole flock was killed.
2009/4	Heves (Mikófalva)	Kellemen Miklós	Dead, 117 months	Bio-Rad TeSeE, 18 March 2009	<i>Immunocytochemistry</i> 19 March 2009 <i>Immunoblotting</i> 01 April 2009	Atypical scrapie	ARR/ARH	Killing after genotyping
2009/5	Fejér (Sárbogárd)	Mezőfalvai Mg-i Termelő és Szolgáltató Zrt.	Dead, 69 months	Bio-Rad TeSeE, 06 April 2009	<i>Immunocytochemistry</i> 20 April 2009 <i>Immunoblotting</i> 17 April 2009	Atypical scrapie	ARR/AHQ	Killing after genotyping
2009/6	Borsod-Abaúj-Zemplén (Mezőzombor)	Kucsár Lajos	Healthy slaughtered, 98 months	Bio-Rad TeSeE, 28 April 2009	<i>Immunocytochemistry</i> 29 April 2009 <i>Immunoblotting</i> 06 May 2009	Atypical scrapie	ARR/AHQ	Killing after genotyping
2009/7	Szabolcs (Aranyosapáti)	Bíró Zoltán	Healthy slaughtered, 52 months	Bio-Rad TeSeE, 04 May 2009	<i>Immunocytochemistry</i> 13 May 2009 <i>Immunoblotting</i> 22 May 2009	Atypical scrapie	ARQ/ARQ	Killing after genotyping

2009/8	Nógrád (Cered)	Ceredvölgye Mg-I Szüvetkezet	Healthy slaughtered, 52 months	Bio-Rad TeSeE, 21 May 2009	<i>Immunocytochemistry</i> 05 June 2009 <i>Immunoblotting</i> 08 June 2009	Atypical scrapie	AIQ/ARQ	Killing after genotyping
2009/9	Borsod-Abaúj- Zemplén (Mezőcsát)	Kuli Sándor	Healthy slaughtered, 59 months	Bio-Rad TeSeE, 19 May 2009	<i>Immunocytochemistry</i> 25 May 2009 <i>Immunoblotting</i> 08 July 2009	Atypical scrapie	ARQ/VRQ	Killing after genotyping
2009/10	Hajdú-Bihar (Hajdúvid)	Zeke László	Healthy slaughtered, 115 months	Bio-Rad TeSeE, 25 August 2009	<i>Immunocytochemistry</i> 04 September 2009 <i>Immunoblotting</i> 09 September 2009	Atypical scrapie	ARQ/ARQ	Killing after genotyping
2009/11	Hajdú-Bihar (Bühamagybajom)	Gálné Dobrán Andrea	Healthy slaughtered, 41 months	Bio-Rad TeSeE, 14 September 2009	<i>Immunocytochemistry</i> 30 September 2009 <i>Immunoblotting</i> 01 October 2009	Atypical scrapie	ARQ/ARQ	Killing after genotyping
2009/12	Heves (Bükkszentmárton)	Magyar Ottó	Dead, 160 months	Bio-Rad TeSeE, 19 October 2009	<i>Immunocytochemistry</i> 29 October 2009 <i>Immunoblotting</i> 30 October 2009	Atypical scrapie	ARR/ARR	Killing after genotyping
2009/13	Bács (Petőfiszállás)	Ifj. Kis József	Dead, 49 months	Bio-Rad TeSeE, 17 November 2009	<i>Immunoblotting</i> 07 December 2009	Atypical scrapie	ARQ/ARQ	Killing after genotyping
2009/14	Heves (Bükkszentmárton)	Magyar Ottó	Culled, 154 months	Bio-Rad TeSeE, 23 November 2009	<i>Immunocytochemistry</i> 10 December 2009 <i>Immunoblotting</i> 07 December 2009	Atypical scrapie	ARR/ARQ	Killing after genotyping
2009/15	Hajdú-Bihar (Hajdúderog)	Oláh György	Healthy slaughtered, 70 months	Bio-Rad TeSeE, 25 November 2009	<i>Immunocytochemistry</i> 11 December 2009 <i>Immunoblotting</i> 17 December 2009	Atypical scrapie	ARR/ARR	Killing after genotyping

The Map of Hungary

