

DISCLAIMER

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Self-declaration of country freedom from Rabies virus by Hungary

Declaration sent to the OIE on 7 December 2021 by Dr Lajos Bognár, OIE Delegate of Hungary and Chief Veterinary Officer, Ministry of Agriculture

1. Introduction

The aim of this declaration is to demonstrate that Hungary fulfils the requirements of a country free from infection with rabies virus in compliance with Article 8.14.2. of the 2021 *Terrestrial Animal Health Code (Terrestrial Code)*. The self-declaration covers the whole territory of Hungary and the populations of both domestic and wild animals. This is the first declaration of freedom of infection with rabies virus. The starting date of this self-declaration is 1 December 2021.

2. Disease notification

Rabies in Hungary is a disease subject to obligatory notification in both domestic and wild animals. It is compulsorily and immediately notifiable to the competent authority. In case of domestic animals, this obligation applies not only to the owner but to every person working with or caring for animals.

There are general rules on infectious disease notification, in the [Hungarian Act No XLVI of 2008 on the Food Chain and its Official Control \(AFCOC\)](#) and in [Decree No 113/2008 of Ministry of Agriculture and Rural Development \(MARD\)](#) outlining that animal keepers shall notify the authority and the private veterinarian about any occurrence or suspicion of an infectious illness of their animal, and shall follow their instructions in case the disease is contagious to other animals. In case of wild animals and stray dogs and cats, the obligation of notification applies to any person observing them showing unnatural behaviour.

There are also rules on the notification of carcasses of foxes in [Decree No 164/2008 of the MARD on detailed rules of the protection against rabies](#): The competent authority should always be notified about carcasses of foxes in which case the death was caused by a road traffic accident or an unknown cause. The animals that are suspicious of having the disease, and the dead bodies must be effectively isolated or quarantined until further instructions are received from the authorities or until safe disposal is carried out. See [Annex III](#) and article 13 in [Annex IV](#) for the list of pieces of legislation with links to the full text, and for the copy of their most relevant content for all the above-mentioned provisions.

In addition to the legislative tools, a rabies awareness campaign was started in 2016 with the aim of increasing the cooperation of the public regarding the reporting of animals that are suspicious of having the disease to the veterinary services. The goal is to maintain public awareness of rabies and to encourage notification of dead foxes and suspicion of the disease and thus, to support passive surveillance.

3. History of the disease

This is the first time Hungary is claiming a status free from infection with rabies virus.

The last case of rabies in wild animals in Hungary was detected in March 2017 in a fox (Borsod-Abaúj-Zemplén county). The last case in domestic animals was detected in March 2017 in a goat (Borsod-Abaúj-Zemplén county). The last case in dogs was detected in October 2014 (Pest county). The last human case occurred in 1994.

In Hungary, rabies is a disease subject to obligatory notification since 1928. At the beginning of the 20th century only urban rabies (the epidemiological form of rabies where the virus is maintained mainly in dogs and cats) was present in the country. By the end of the 1930s - as a result of the introduction of strict rules for keeping dogs (keeping a record of dogs and their obligatory yearly vaccination) - Hungary was the first country in the world to become free from urban rabies. After World War II, the country temporarily lost its rabies free status, but carrying out the above measures consistently, finally the country became free again from urban rabies.

Sylvatic rabies (where the epidemiological cycle is maintained in wild carnivores, of which the main reservoir is the red fox population in Central Europe, but some occasional spill-over to domestic animals may also occur) was introduced into Hungary from the north in 1954 and until 1966 it occurred only sporadically to the east from the river Danube. In 1967 the disease also spread to Transdanubia and by the end of 1971 the whole country had become endemic.

At the beginning, the fight against sylvatic rabies was attempted by reducing the number of red foxes, but the results were insignificant. Between 1978 and 1993 the number of rabies cases varied between 880 and 1465 cases per year. Nearly 80% of the rabies cases were found in red foxes.

In Hungary, oral vaccination of red foxes started in the autumn 1992 at the expense of the Hungarian state, initially in a 5,000 km² area near to the western border of the country. Based on the favourable results, the vaccination area was gradually increased. In 2004-2006, the bait distribution area has been extended over the whole country within the scope of the PHARE (Poland and Hungary: Assistance for Restructuring their Economies) project. Since 2007 the eradication, control and monitoring programmes are approved and co-financed by the European Union. In 2007 the vaccination in the whole territory of the country was continued. From year 2008 until the spring 2013, according to the favourable epidemiological situation, oral vaccination was maintained only in a 50 km wide zone along the borders with neighbouring countries not officially free from rabies.

The efficacy of the oral immunization of foxes can be demonstrated by the considerable decrease of rabies cases in the country. Between 2005 and 2010, the number of positive cases detected remained under or around ten cases. In 2011 two, in 2012 one case of EBLV-1 was confirmed in bats but no case of classical rabies (RABV) was detected in the country.

In September 2013 rabies was diagnosed in a red fox originating from Bács-Kiskun county, an area in the central part of Hungary that had not been vaccinated since 2008. In 2013, 24 cases were detected within 3.5 months. An emergency ring vaccination was implemented in autumn 2013 in a semi-circle (taking advantage of river Tisza as a natural barrier) of 50 km radius around the first detected case. In 2014, 23 cases of rabies were detected (within 12 months) while the vaccination area was extended to the north up to highway M3 (E71), and in this area a double baiting density was applied (40

baits/km²). The epidemic affected three counties (Bács-Kiskun, Pest, Jász-Nagykun-Szolnok), and 47 cases were found in total, of which four occurred in domestic animals (2 cattle, 1 dog, 1 goat) and 43 in wild animals (41 foxes and 2 roe deer). After three consecutive vaccination campaigns in the infected area, no further cases were found.

In 2015, the vaccination area was further extended to the north and no rabies cases were diagnosed in domestic animals or in wildlife. Only one case in a bat (Pest county, EBLV-1) and one vaccine-induced case in a red fox (Békés county, vaccine strain, confirmed by the EURL as well) were found.

In February 2016, one red fox was found positive in Borsod-Abaúj-Zemplén county. The rabies virus was different from the viruses isolated from the cases in 2013-2014. During the 2016 spring campaign, vaccine baits were distributed in a double density (40 baits/km²) within a circle of 50 km radius around the location of the case. In March 2017, in the same area, a red fox showing neurological symptoms was found positive again. The strain was identical to the one isolated in 2016. Two weeks later, in a farm closely located to where the red fox was found, rabies was confirmed in two goats (a doe and a kid). **These three rabies cases found in March 2017 are the last ones detected in Hungary up to November 2021.** During year 2018, no classical rabies cases were detected in Hungary (only EBLV in bats: one case of EBLV-1, Pest county, January 2018). In years 2019-2021 (up to the end of November 2021 when this document is being compiled), no case of rabies was found in Hungary.

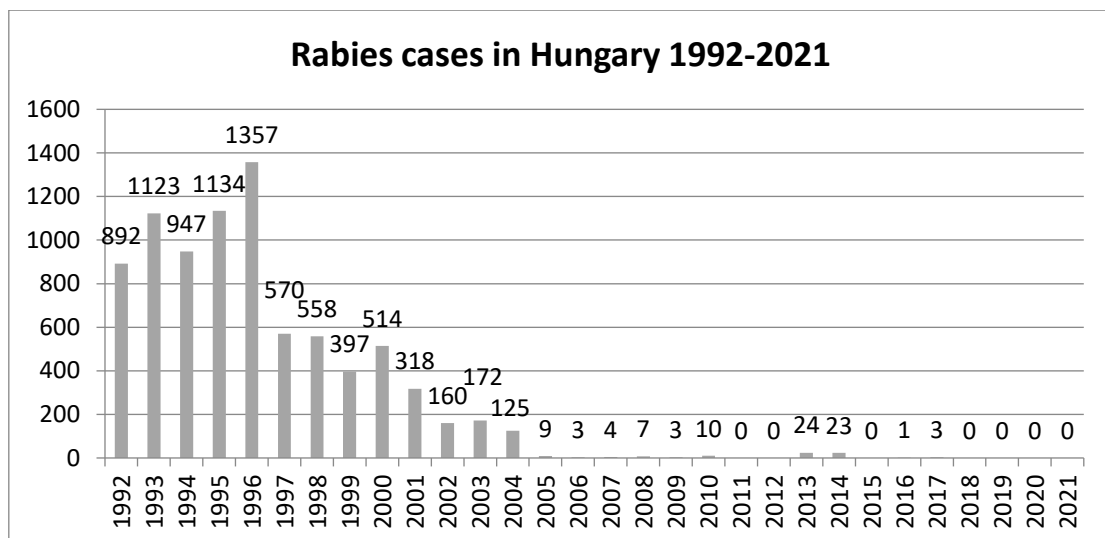


Figure 1. Rabies cases in Hungary 1992-2021

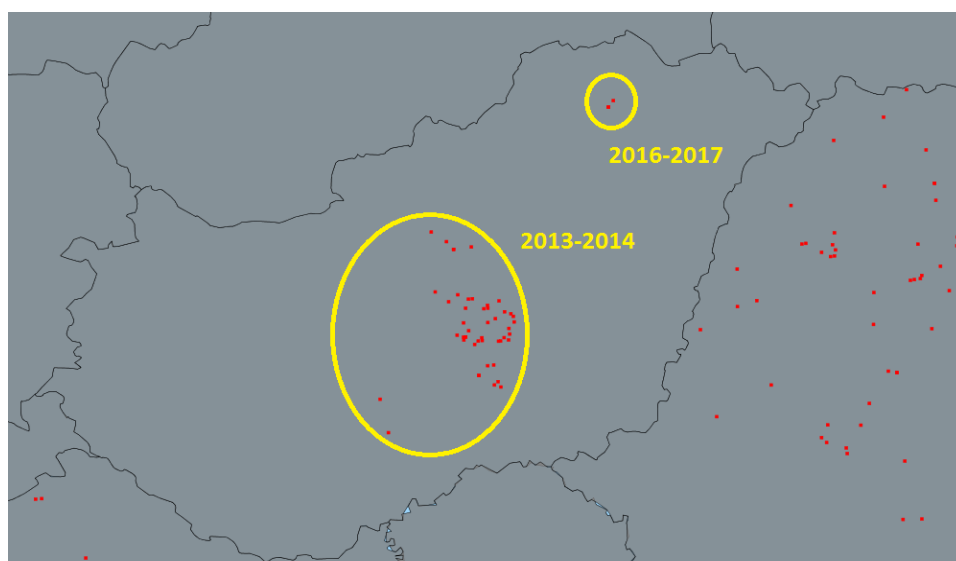


Figure 2. Rabies cases in Hungary 2013-2014 and in 2016-2017

The dog population of Hungary is circa 1 million heads (based on national dog register data). Vaccination of dogs against rabies is obligatory once a year in accordance with Decree No 164/2008.

The estimated size of the red fox population in Hungary is circa 60,000-70,000 foxes (estimated in February each year, before the reproductive season, when no offspring are present). The distribution of the population is quite even in the country, with somewhat higher densities in the plain areas.

The estimated size of the golden jackal population of Hungary is circa 15,000-20,000 heads and continuously growing (estimated in February each year, before the reproductive season, when no offspring are present). The distribution of the species in the country is uneven. The species intruded into Hungary from the south, and currently the major part of the population lives in the south-western part of the country, but it is continuously spreading to the northern and eastern parts, where it can be found in a lower number. In certain hunting grounds, the population of this species is dominant over that of the red fox. Oral vaccination of wild carnivores is carried out regularly (during spring and autumn campaigns) in the southern and eastern parts of the country (areas neighbouring countries not free from rabies). Both in domestic and wild animals, every kind of vaccine used is produced and used in accordance with the *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals (Terrestrial Manual)*.

4. Rabies surveillance

As in the past 10 years, the incidence of rabies disease has been fading out in Hungary. Currently the main objectives of the surveillance programme are as follows:

- collect evidence of freedom of the disease
- early detection of re-introduction of the disease.

Passive surveillance is in place in the whole territory of Hungary, covering all susceptible species. In the area where oral vaccination of wild carnivores is performed, the animals shot for the monitoring of vaccination effectiveness are tested for rabies as well (until the end of 2021), thus providing active surveillance. The tests are performed in a state laboratory at state expense. The test methods available are in line with the *Terrestrial Manual*, and the National Reference Laboratory (NRL) regularly participates in proficiency tests organized by the European Reference Laboratory for Rabies.

Please find detailed surveillance data in [Annex II](#) to this document.

4.1. Laboratory methods

Routine diagnostics of rabies in all animal species are carried out in three laboratories of the Veterinary Diagnostic Directorate (VDD) of the National Food Chain Safety Office: a central laboratory in Budapest, which is the NRL for Rabies, and two regional laboratories, one in Debrecen and one in Kaposvár.

Available diagnostic methods:

- FAT - direct immunofluorescence (fluorescent antibody test, FAT) of imprints of the brain with a monoclonal anti-nucleocapside conjugate (Fujirebio), performed on all samples
- real time RT-PCR (Wakeley et al., 2005), performed on all samples of animals involved in human injury or showing neurological signs and on all samples with a positive histopathological result
- RTCIT - isolation of the virus in neuroblastoma cell cultures (N2A), performed on samples of animals involved in human injury
- MIT- isolation of the virus in mice – only in case of human injury, the method is available but currently not used (this test has been replaced by the RTCIT method as of January 2020).

FAT positive results are confirmed by:

- real time RT-PCR
- RTCIT
- Sequencing (Sanger et. al., 1977)

In case of human exposure, FAT negative samples are also examined with:

- real time RT-PCR
- RTCIT

4.2. Passive surveillance system

In Hungary, rabies is a disease compulsorily and immediately notifiable to the competent authority. For further details please see Chapter 2: Disease notification.

Rabies passive surveillance is conducted in the whole territory of Hungary. Passive surveillance is focused on indicator animals (including wild animals, especially foxes and other wild carnivores found dead or shot because of showing neurological symptoms or strange behaviour, and domestic animals showing clinical signs suggestive of rabies) but animals of any species that are involved in human injuries are also tested for rabies. All domestic and wild animals are tested for rabies if they showed abnormal behaviour or neurological signs, or caused human injury before their death. Wild animals found dead must be tested for rabies as well following *point 4 of Article 9 of [Decree No 164/2008 of the MARD](#)* (see the relevant sections in [Annex IV](#)).

4.3. Active surveillance system

Active surveillance data were obtained from the foxes and jackals collected (shot) for the purpose of monitoring the effectiveness of oral rabies vaccination (ORV) in the vaccination area. Consequently, the target populations of active surveillance were the wild red fox and golden jackal populations, and the area of active surveillance was the vaccination area.

These animals were tested for the presence of rabies virus as well (besides having had the tests performed for the monitoring of vaccination effectiveness: tetracycline and antibody detection) which provided data for active surveillance from the vaccination area. Considering that the vaccination area was determined (inter alia) based on the risk of re-introduction of the disease, these active surveillance data provided valuable information in addition to the passive surveillance data.

As of 2022, taking into consideration the favourable epidemiological situation, the Chief Veterinary Officer of Hungary decided to stop testing bodies of hunted healthy foxes (from the vaccination area) for rabies (with an exception of testing bodies of shot healthy foxes having been involved in human injuries). Passive surveillance remains in force in the whole territory of the country.

The Hungarian veterinary authority has the right to order the shooting of increased number of foxes in the area where rabies occurs, so that in an epidemic situation (e.g., in case of reintroduction of the virus), an active surveillance could be easily organized to determine the size of the infected area.

See *Article 9 and 11 of [Decree No 164/2008 of the MARD on detailed rules of the protection against rabies](#)* for details on the above-mentioned provisions in [Annex IV](#).

5. Measures implemented to maintain freedom in the country

5.1. Oral rabies vaccination programme in wild carnivores

The chief veterinary officer determines when and where the vaccination is carried out. Vaccine baits are used, which are distributed by the use of aeroplanes. For 21 days after the vaccination grazing of

animals is forbidden, dogs have to be kept indoors or within a securely fenced area and can only be walked on a lead and wearing a muzzle. To check the efficacy of the oral vaccination, 4 adult foxes per 100km² are shot every year and their bodies are sent to an appointed laboratory to be tested. Wild mammals found dead are also tested for rabies. Vaccination is performed twice a year (in the autumn and in the spring) for at least 2 consecutive years after the last case of rabies. If there aren't any rabies cases during those 2 years, the given county can be granted rabies free status. If infection reoccurs, oral vaccination has to be repeated in a radius of 50 kilometres around the location of the case. To prevent reoccurrence, vaccination of foxes has to be continuously maintained in an area of 50 km width along the border with any country that do not have rabies free status. The minister can order to reduce the population size of foxes, and to kill stray cats and dogs that cannot be captured. *Article 8-11 of [Decree No 164/2008 of the MARD on detailed rules of the protection against rabies](#)* contains the detailed rules on oral vaccination of foxes, as above. See the copy of the exact relevant sections in [Annex IV](#).

The oral vaccination of foxes was first carried out in 1992 in a small area in Western-Hungary. Later, the area was gradually increased and then decreased due to the favourable evolution of the epidemiological situation. The central competent authority modified the vaccination area numerous times during the past years, always taking into consideration the epidemiological situation as well as cost-effectiveness.

The vaccination programme is organized at central level, the central veterinary authority launches tenders and signs contracts for the purchase and distribution of vaccines. Vaccination campaigns are performed twice a year: in the spring (preferably in the first half of April) and in the autumn (preferably in the first half of October). The campaigns are performed approximately in the space of 10-14 days (in case of favourable weather conditions). In the recent years, Lysvulpen vaccines have been used.

Two vaccination campaigns were successfully completed in 2021. Contracts for vaccinations in 2022-2023 have been already signed. The size of the vaccinated area in 2021 was 27,423 km² (the same area is planned to be vaccinated in 2022-2023) and the number of baits to be distributed per campaign is circa 548,500. It should be noted that the central veterinary authority has made a reserve capacity included in each public contract for the purchase and distribution of oral rabies vaccines. Therefore, in case of re-emergence of rabies, an emergency vaccination campaign could be rapidly organized.

Bait density to be achieved is 20 baits/km² in the vaccination area. Distribution of vaccine baits is not carried out in the urban areas (town, villages, etc.), in the areas of waters (lakes, rivers, etc.), areas of public roads (roads, highways, etc.) and railways. Vaccines are distributed with the use of airplanes, but in some specific areas manual distribution is performed as well.

Aerial distribution

Aerial distribution is the main method of distribution. The target bait density is 20 baits/km² (gross). Distribution of vaccine baits will be performed with fixed-wing airplanes (different types of CESSNA airplanes are used). Distance between flight lines is usually 1000 metres, the flying speed is between 100 and 120 km/h. In each new campaign flying lines are rotated with 90 degrees compared to the lines of the previous campaign. The distributor companies and the personnel of the airplanes are instructed not to drop baits in densely inhabited areas and into waters.

All airplanes are equipped with GPS systems to record the flight routes and the droppings of baits. The aerial distribution is planned with a mapping software and controlled using GPS. Flying lines and points of bait droppings are digitally recorded and data are analysed and stored.

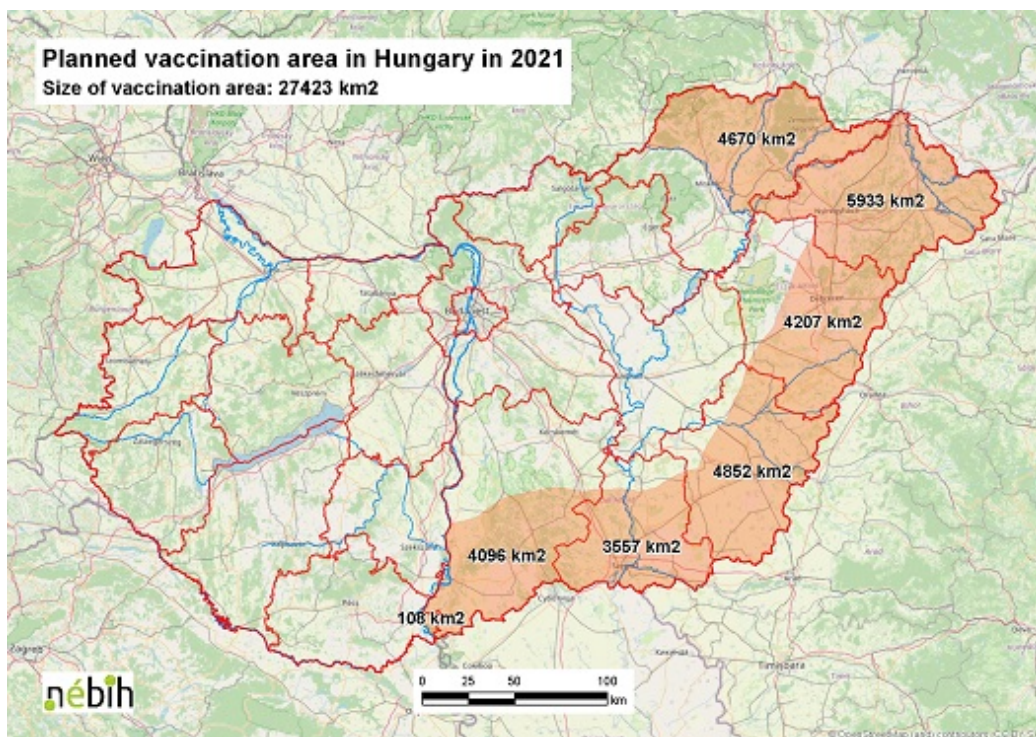


Figure 3. Area of oral vaccination against rabies in Hungary in 2021 (same area is planned for 2022-2023)

Manual distribution

Manual distribution is only supplementary (Less than 1% of all the baits are distributed manually). Manual distribution is applied in some specified areas where flying is prohibited or where a more precise distribution of baits is needed (i.e., oil and power plants and railway transfer zones). Manual distribution is carried out by qualified wildlife biologists. The bait density is 20 baits/km².

The effectiveness of vaccination is monitored with laboratory tests carried out on red fox and golden jackal samples collected from the vaccination area as described above.

The tests for monitoring the efficiency of the oral immunization are carried out in the laboratories of the VDD, on foxes (and, as of 2016, on golden jackals) shot within the vaccination area, with the following methods:

- transversal tooth section – test for the presence of biomarker tetracyclines (test for bait uptake)
- serological (ELISA) test – test for the presence of antibodies (these tests are carried out in the NRL)
- direct immunofluorescence tests (fluorescent antibody test -FAT) of imprints of the brain samples are also performed from foxes and jackals collected for the purpose of monitoring of effectiveness of ORV (active surveillance data are obtained from these results).

hunting year	2016/2017		2017/2018		2018/2019		2019/2020		2020/2021	
	fox	jackal	fox	jackal	fox	jackal	fox	jackal	fox	jackal
tetracycline positives (%)	72	71	78	76	77	67	71	73	85	86
antibody positives (%)	51	42	41	27	38	40	25	28	32	21

Table 1. Results of monitoring the effectiveness of oral vaccination

These results are in line with those obtained in other EU Member States implementing a similar vaccination programme (same vaccine, same testing methods). Our oral vaccination programme in wild carnivores has proved to be effective both on long term and in emergency situations.

5.2. Rabies vaccination in domestic animals

Vaccination of dogs against rabies is compulsory in Hungary according to the provisions of *Articles 4, 5, 6 and 7* of [Decree No 164/2008 of the MARD on detailed rules of the protection against rabies](#) (see [Annex IV](#) for the copy of the exact sections). Vaccination of cats is highly recommended (which is communicated to cat owners both by the veterinary authority and the veterinary practitioners), and vaccination of other species is voluntary but can also be ordered by the veterinary authority in certain circumstances.

Dogs must be microchipped, vaccinated within 30 days of reaching three months of age and must receive a booster vaccination six months after the first vaccination and then yearly. Regular preventive vaccination of cats and other pet carnivores against rabies can be ordered by the authorities in areas affected by rabies. Carnivores other than dogs, if there is a chance of them getting infected, and wild carnivores kept in captivity must also be vaccinated. Preventive vaccination of other animals can be performed on the request of their owners. The vaccines used must have marketing authorisation in Hungary. The method of administration is intramuscular or subcutaneous, in wild animals the authorities can authorise oral vaccinations. Mass vaccination of dogs can be ordered by the authorities in unfavourable epidemiological situations.

As regards of the prevention of introduction of rabies into the country via movement of pet animals, the national legislation (in accordance with [Regulation \(EU\) No 576/2013 of the European Parliament and of the Council of 12 June 2013 on the non-commercial movement of pet animals and repealing Regulation \(EC\) No 998/2003](#)) is [Decree No 21/2015 of the Ministry of Agriculture on the animal health requirements of the non-commercial movement of pet animals](#).

Guidelines regarding the veterinary requirements of movement of pet animals can be found on the following website of the central competent authority, the National Food Chain Safety Office (NFCSO):

<https://portal.nebih.gov.hu/-/kedvtelesbol-tartott-allatok-utaztatasara-vonatkozoz-tajekoztato>

5.3. Rabies awareness campaign

A rabies awareness campaign was launched by the central veterinary authority (NFCSO) in 2016: a dedicated homepage was created, leaflets have been distributed, and billboards have been displayed. Also, a TV spot has been broadcasted on several media platforms in the following years. The campaign was continued in 2019 (posters and roadside advertising panels in some specified areas). In 2020, a mini-series of educational films about rabies was produced and distributed, and again roadside advertising panels and posters were used to increase awareness. The main aim of the campaign is to involve the public in the reporting of suspected cases of rabies and thus, to maintain/increase passive surveillance.

Key messages of the campaign are the followings:

- Notification of any suspicion of rabies to the local or central veterinary service. The main aim of the campaign is to maintain a good passive surveillance by encouraging the reporting of rabies suspect animals and rabies indicator animals (especially wild carnivores) found dead.
- To call the attention of pet owners to have their dogs and cats vaccinated against rabies (in case of dogs, vaccination is obligatory in Hungary). The importance of vaccinating dogs and cats, and thus preventing the transmission of the disease to humans is explained.
- Prevention of human cases. Information is given about the importance of medical care in case of animal bites.

Tools of communication:

- TV spot –broadcasted on different TV channels and YouTube

- leaflets – to be distributed on events, in schools, city halls, tourist attractions etc, or by post in the risk areas
- roadside panels – to be placed mainly in the risk areas
- online advertisements
- homepage dedicated for rabies (www.veszettsegmentesites.hu)
- National Food Chain Safety Hotline (general hotline, not specifically for rabies)
- meetings with hunters in the area of oral vaccination
- mini-series of educational short films about rabies

These awareness activities have been/are co-financed by the European Union.

6. Conclusion

The results of the passive surveillance as well as the data obtained from the samples collected for the purpose of monitoring the effectiveness of oral vaccination (active surveillance) in the recent 4.5 years demonstrate the absence of rabies virus in Hungary.

The OIE Delegate of Hungary declares that the country complies with the requirements for a country free from rabies as of 1 December 2021, in compliance with the provisions of Chapter 1.6. and Article 8.14.2. of the OIE *Terrestrial Code* (2021 edition) and the declaration is consistent with the information provided in OIE-WAHIS.

Annex I - Declaration of the Delegate

Statement to be included in the self-declaration document.

I, the undersigned,

LAZCS BOGNA'R

Delegate of..... HUNGARY

to the World Organisation for Animal Health (OIE), takes responsibility for the self-declaration of freedom from

RABIES

..... (disease)

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Drawn up on 07.12.2021

Signature of the Delegate:



Annex II – Rabies surveillance data 2015-2021

RABIES SURVEILLANCE DATA BY TYPE OF SURVEILLANCE								
Year	Passive, domestic		Passive, wild		Active, wild		Total	
	Whole country				Vaccination area			
	Tested	Positive	Tested	Positive	Tested	Positive	Tested	Positive
2015	597	0	445	1 fox (vaccine induced case)	2612	0	3654	1 fox (vaccine induced case)
2016	622	0	447	1 (fox)	3209	0	4278	1 (fox)
2017	614	2 (goat)	562	1 (fox)	2750	0	3926	3 (1 fox, 2 goats)
2018	598	0	413	0	1484	0	2495	0
2019	607	0	384	0	1689	0	2680	0
2020	533	0	290	0	1788	0	2611	0
2021	374	0	339	0	882	0	1595	0

Table 1. Rabies surveillance data in Hungary 2015- 3rd quarter 2021. Bats are not included.

PASSIVE SURVEILLANCE DATA BY COUNTY														
	2015		2016		2017		2018		2019		2020		2021	
	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.
Baranya	45	0	39	0	40	0	23	0	47	0	38	0	24	0
Bács-Kiskun	100	0	76	0	70	0	62	0	66	0	56	0	32	0
Békés	24	1*	19	0	24	0	30	0	28	0	24	0	16	0
Borsod-Abaúj-Zemplén	61	0	84	1	122	3	97	0	74	0	75	0	47	0
Csongrád-Csanád	43	0	41	0	44	0	41	0	50	0	35	0	30	0
Fejér	48	0	46	0	48	0	37	0	53	0	29	0	29	0
Győr-Moson-Sopron	29	0	34	0	24	0	28	0	30	0	36	0	17	0
Hajdú-Bihar	42	0	55	0	62	0	59	0	48	0	51	0	45	0
Heves	37	0	26	0	30	0	30	0	28	0	33	0	19	0
Jász-Nagykun-Szolnok	43	0	28	0	26	0	30	0	30	0	22	0	17	0
Komárom-Esztergom	33	0	47	0	42	0	32	0	25	0	24	0	34	0
Nógrád	32	0	37	0	32	0	17	0	24	0	28	0	12	0
Pest+Budapest	262	0	302	0	333	0	290	0	300	0	219	0	260	0
Somogy	81	0	55	0	51	0	56	0	36	0	34	0	30	0
Szabolcs-Szatmár-Bereg	59	0	65	0	60	0	58	0	32	0	26	0	33	0
Tolna	20	0	26	0	22	0	25	0	26	0	14	0	8	0
Vas	11	0	18	0	29	0	29	0	33	0	17	0	12	0
Veszprém	47	0	45	0	62	0	40	0	29	0	31	0	25	0
Zala	25	0	26	0	55	0	27	0	32	0	31	0	23	0
TOTAL	1042	1*	1069	1	1176	3	1011	0	991	0	823	0	713	0

Table 2. Rabies passive surveillance data in Hungary 2015- 3rd quarter 2021 by county. Bats are not included.

*Vaccine induced case (infection caused by vaccine virus strain)

ACTIVE SURVEILLANCE DATA BY COUNTY														
	2015		2016		2017		2018		2019		2020		2021	
	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.	Tested	pos.

Baranya	186	0	187	0	164	0	95	0	182	0	183	0	70	0
Bács-Kiskun	283	0	376	0	254	0	167	0	179	0	157	0	96	0
Békés	251	0	291	0	283	0	133	0	253	0	278	0	169	0
Borsod-Abaúj-Zemplén	203	0	437	0	302	0	249	0	295	0	302	0	141	0
Csongrád-Csanád	203	0	225	0	202	0	123	0	162	0	200	0	87	0
Fejér	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Győr-Moson-Sopron	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hajdú-Bihar	283	0	300	0	306	0	168	0	269	0	266	0	144	0
Heves	144	0	205	0	152	0	68	0	-	-	-	-	-	-
Jász-Nagykun-Szolnok	225	0	269	0	197	0	98	0	-	-	-	-	-	-
Komárom-Esztergom	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nógrád	67	0	116	0	86	0	39	0	-	-	-	-	-	-
Pest	196	0	208	0	194	0	67	0	-	-	-	-	-	-
Somogy	95	0	125	0	152	0	79	0	111	0	124	0	40	-
Szabolcs-Szatmár-Bereg	256	0	249	0	278	0	121	0	196	0	231	0	130	0
Tolna	47	0	42	0	45	0	25	0	42	0	47	0	5	-
Vas	35	0	43	0	31	0	14	0	-	-	-	-	-	-
Veszprém	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zala	138	0	136	0	104	0	38	0	-	-	-	-	-	-
TOTAL	2612	0	3209	0	2750	0	1484	0	1689	0	1788	0	882	0

Table 3. Rabies active surveillance data in Hungary 2015- 3rd quarter 2021 by county

Active surveillance data are obtained from the foxes collected for monitoring the effectiveness of oral vaccination

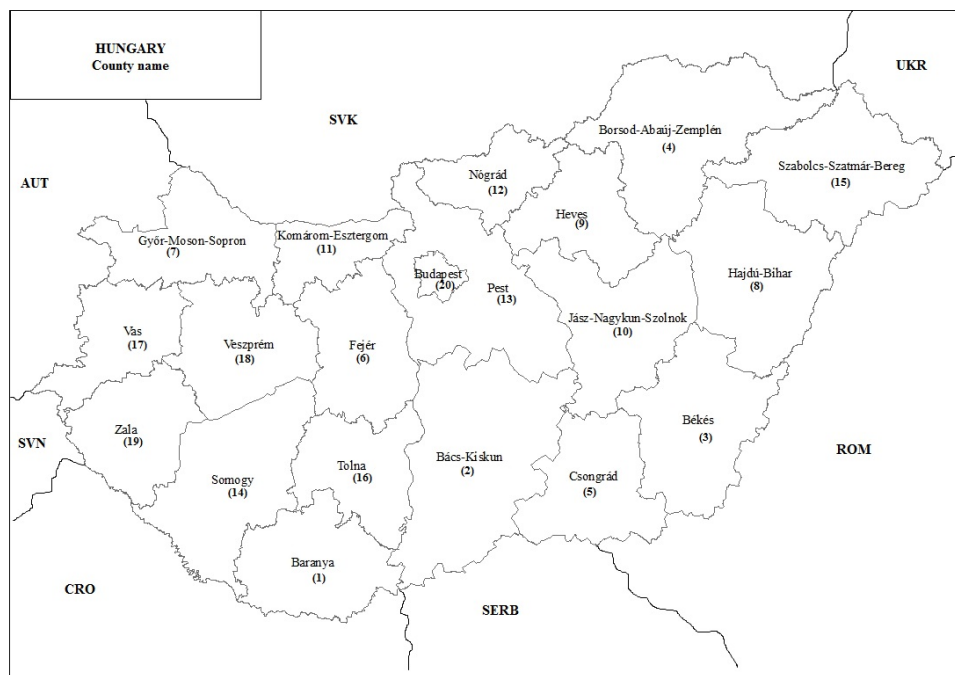


Figure 1. Administrative map of Hungary (counties)

Annex III-Legislation on the rules of notification excluding article 13 of Decree 164/2008

Hungarian Act No XLVI of 2008 on the Food Chain and its Official Control (AFCOC)

Article 18, paragraph (1):

Keepers of animals shall:

f): notify forthwith the food chain control authority and the private veterinarian of the occurrence or suspicion of any animal disease, and shall have animals having a disease or suspected of having a disease examined, and in the case of epizootic animal diseases, carry out the instructions given by the food chain control authority or the private veterinarian to treat the animal or animals in question or to prevent any further spreading of the disease, and shall carry out the obligations set out in the emergency measures applied;

Article 51, paragraph (1): The notifiable animal diseases are specified in legislation adopted for the implementation of this Act.

Decree No 113/2008 of Ministry of Agriculture and Rural Development (MARD) on the order of the notification of animal diseases

Article 1, paragraph (3): Annex 1 contains the list of notifiable animal diseases.

Article 3, paragraph (2): In any holding where animals are kept, all of those people who are in charge of keeping an eye on, guarding, caring for, grooming, purchasing, slaughtering, disposing bodies of animals as part of their job, and all of those who come into contact with the animals are subject to the obligation of notification. In the above mentioned list no one is exempt from the obligation of notification even if someone else also has the obligation to do so. The notification has to be done to the private veterinarian or to the official veterinarian, according to article 18, paragraph (1), point f) and h), and paragraph (2) and (4) of the AFCOC.

Article 3, paragraph (5): Everyone who perceives a stray dog, cat or wild animal behaving abnormally, shall notify that as well.

Annex 1 to Decree No 113/2008 of MARD: List of notifiable animal diseases

Section A: Diseases affecting terrestrial animals

point 35. Rabies

Annex IV-selected relevant sections of [Decree No 164/2008 of the MARD on detailed rules of the protection against rabies](#)

Article 4

(1) Animal keepers shall:

a) arrange, at their own cost, for the vaccination of all dogs above three months of age – except for any dog kept in closed environment for the purpose of scientific research or laboratory tests – to be performed by the private veterinarian responsible for the animal health supervision of such dogs as follows:

aa) within 30 days of reaching three months of age,

ab) within 6 months after the first vaccination,

ac) yearly afterwards;

(7) Dogs can only be vaccinated against Rabies after they have been fitted with a microchip.

Article 5

(1) In areas with confirmed cases of rabies, the district office may order the regular preventive vaccination of cats and other pet carnivores against rabies. In this case the immunization shall be performed in accordance with the rules applicable to the vaccination of dogs. Measures ordered under this paragraph shall be published in accordance with Article 42 (3) of the AFCOC.

(2) The preventive vaccination of other animals against rabies may be performed by private veterinarians upon the request and at the cost of the animal keepers. A record shall be kept on livestock kept for food production purposes that are immunized against rabies, pursuant to Article 4 (5) b) and the recorded data shall be forwarded to the district office by the fifth day of the month following the vaccination.

(3) Captured or purchased foxes and captured wild other carnivorous mammals shall be housed individually or in small groups so that their place of origin can be identified. These animals shall be vaccinated against rabies at the cost of their owner and in accordance with the rules applicable to dogs.

(4) If any of the captured animals referred to in Paragraph (3) may also infect carnivorous animals other than dogs kept at the same site then such other animals shall also be vaccinated against rabies once every year.

Article 6

(1) Only vaccines having marketing authorisation in Hungary in accordance with a separate piece of legislation may be used for the purpose of anti-rabies immunization.

(2) A polyvalent vaccine containing an anti-rabies component may only be used for dogs previously vaccinated against rabies with a monovalent vaccine twice.

(3) Dogs, cats, livestock and other captured animals may only be immunized individually with an intramuscular (i.m.) or subcutaneous (s.c.) vaccine used in accordance with the instructions for use of the vaccine.

(4) Wild and – if the vaccination described in Paragraph (3) is not feasible – carnivorous mammals kept in captivity for demonstration purposes may also be immunized with oral vaccines with the special permit of the district office.

(5) Animals withdrawn from any vaccination that is compulsory according to this decree or is ordered by the animal health authority shall be vaccinated on the basis of the decision of the official veterinarian, and a fine specified in a separate piece of legislation shall be imposed on the owners of such animals.

Article 7

(6) In an unfavourable rabies epidemiological situation the district office may order the organized mass vaccination of dogs.

Article 8

(1) In order to prevent and control rabies in foxes, the immunity of the wild fox population to rabies shall be ensured through oral vaccination. The date and the area of immunization shall be determined by the Chief Veterinary Officer. Fourteen days before the start of immunization the Chief Veterinary Officer shall inform the Chief Medical Officer, the director of the Directorate General for Disaster Management, and, in case the vaccination is performed near borders, the veterinary authority of the neighbouring countries about the date and the designation of the identifiable area of immunization, and about the type of vaccine used.

(2) The National Food Chain Safety Office implements the oral vaccination of foxes with the involvement of the competent county government offices and the competent hunting authority.

(3) Only those vaccine baits may be used for the oral vaccination of foxes that have a marketing authorisation in Hungary in accordance with the separate relevant piece of legislation.

(4) The vaccine baits shall be spread from airplanes in accordance with the instructions for use of the vaccine bait. The vaccine bait shall be distributed manually in areas where aerial distribution is not feasible for safety or other reasons.

(5) The competent chief district office shall order to keep dogs enclosed and ban grazing in the affected areas for 21 days after the start of vaccination.

(6) In areas affected by the immunization, upon the initiative and under the guidance of the hunting authority, eligible hunters shall place clearly visible red placards written in two languages (Hungarian and English) and provided with warning pictograms along exit roads, approach roads, excursion sites, parking lots, tourist rest houses and hunting lodges.

(7) Eligible hunters or hunting organisations shall forward the warning placards referred to in Paragraph (6) to the affected municipalities also in order to provide information for the public.

(8) If any person comes into contact with the vaccine in the bait, it shall be promptly reported to the district office competent in public health matters.

Article 9

(1) Checking the efficacy of rabies (besides the annual survey of wild fox populations) should be done via state financed laboratory methods, which checks should prove vaccine uptake as well as should detect cases of rabies.

(2) Once the vaccination is finished, four adult foxes per 100 km² shall be shot every year. Eligible hunters shall forward the fox carcasses to the district office having competence over the area of shooting which shall forward the carcasses to the animal health laboratory appointed in accordance with the procedure described in Article 16 (hereinafter: "laboratory").

(3) The number of foxes to be shot by eligible hunters shall be specified in a decision issued by the district government office fifteen days before each sampling period. Eligible hunters are eligible for compensation for carrying out this task.

(4) In addition to the examination of foxes shot as per Paragraph (2), in the whole territory of Hungary, carcasses of dead foxes and other wild mammals shall also be examined for rabies. In case of small game the entire body, in case of big game the head shall be forwarded for examination in accordance with the procedure specified in Paragraph (2).

Article 10

(1) The vaccination referred to in Article 8 (1) shall be performed twice a year (in the spring and in the autumn) for at least two consecutive years depending on the epidemiological situation.

(3) ...In order to prevent re-introduction, vaccination shall be maintained in a 50 km wide zone along the borders with neighbouring countries that are not officially free from rabies.

Article 11

(1) In order to control the spread of rabies among foxes or its transmission to other animal species

a) the minister may order -on the basis of the proposal of the chief veterinary officer- to increase the number of foxes to be shot or to reduce their population size by other means;

b) the district office may order the killing of stray cats and dogs in the hunting ground if they cannot be captured.

(2) The measures referred to in Paragraph (1) shall be implemented by eligible hunters.

Article 13

In addition to comply with the notifying obligations described in the separate legislation on the notification of animal diseases, and with the notification obligation described in Article 18 paragraph (1) point f) of the AFCOC

a) the percipient must notify

aa) the competent hunting authority of any foxes or other wild mammal animals behaving unnaturally

ab) the competent veterinary authority of any finding of a dead fox in which case the death was caused by having been run over by a vehicle or an unknown cause

b) the person responsible in accordance with Article 19. of the AFCOC must ensure that animals or unauthorised persons could not have access to the dead fox until the removal of the fox carcass, and/or until instructions are given by the official veterinarian;

c) if the quarantine is possible and could be implemented without any risk, the animal suspicious of having a disease or behaving unnaturally must be quarantined at a place where there is no possibility of having contact with other animals.