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REPORT
on the Task Force meeting of the "Rabies" subgroup

Latvia, Riga

26-27 November 2008

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Participants

-Representatives from the Food and Veterinary Service of Latvia: Kristine Lamberg, Edvins Olsevskis and Martins Serzants

-as governmental experts from the following Member States: AT,CZ, EE,FI,HU LT, PL:

Andrea Höflechner (AT), Petr Satran (CZ), Enel Niin(EE), Jakava-Viljanen Miia Kristiina (FI), Vilmos Palfi (HU), Marius Masiulis(LT), Marcin Smreczak (PL),

-as private experts: Florence Cliquet (AFSSA Nancy, France) and Thomas Müller (Friedrich Loeffler Institute, Federal Research Institute for Animal Health, Wusterhausen, Germany)

-Experts from Belarus, Ukraine and the Russian Federation (Federal Services and Kaliningrad region)

-Representatives from the European Commission: James Moynagh, Head of Unit SANCO 04; Sarolta Idei and Panayiotis Demetriou - veterinary administrators SANCO 04

Agenda: see Annex

Location: Food and Veterinary Service of Latvia,Riga

First of all the host presented the situation of Rabies in Latvia.

Rabies has been a permanent human and animal health threat in Latvia since decades. The number of rabies cases in animals between 1990 and 1999 varied from 126 to 304 per year. A sudden increase in Rabies positive animals was seen from 2000 resulting in a peak of more than 960 rabies cases in 2003. In the following 3 years (2004-2006) the rabies incidence decreased by 50% but remained relatively unchanged. Only in 2007 and in the first 10 months of 2008, a sudden decrease of rabies cases could be observed, as a result of improved oral vaccination campaigns in foxes and racoon dogs (table 1)

Table 1 Number of reported rabies cases in Latvia during the years 2000 – 2008.

Year	All animals	Wildlife
2000	516	398
2001	477	393
2002	500	411
2003	964	829
2004	443	350
2005	421	353
2006	471	383
2007	202	145
2008 1-10mo	96	76

Table 2 Percentage of species affected by rabies during 2006 and 2008.

Species	2006	2007	2008 1-10 mo
Fox	40%	47%	39%
Raccoon dog	32%	16,4%	37%
Other wild animals	9%	8,4%	4%
Cow	3%	2,5%	6%
Cat	9%	13,3%	6%
Dog	7%	12,4%	8%
Total number of Rabies cases	471	202	96

Based on the data presented in Table 2 it is obvious that the red fox and the raccoon dog are ranked top in the list of rabies affected species. The fact that both species are affected the same way supports the hypothesis that both species may represent the main reservoirs of rabies virus in Latvia. Based on the information provided by the responsible authorities, currently the fox and raccoon dog population is estimated to be 33,000 and 20,000 individuals countrywide, respectively. However, there is evidence that the population densities of these two species show increasing trends in recent years.

According to the database of the veterinary service, more than 100.000 dogs and more than 30.000 cats were vaccinated annually between 2005 and 2007. Despite the fact that the vaccination of cats and dogs against rabies is compulsory in Latvia, the number of reported rabies cases in these two domestic carnivores remained, however, relatively high, with a higher rabies incidence recorded in 2007. The last human rabies case occurred in the country in 2003.

Although there is a downward trend in rabies incidence during the past two years, rabies still remains endemic throughout the country (figure 1).

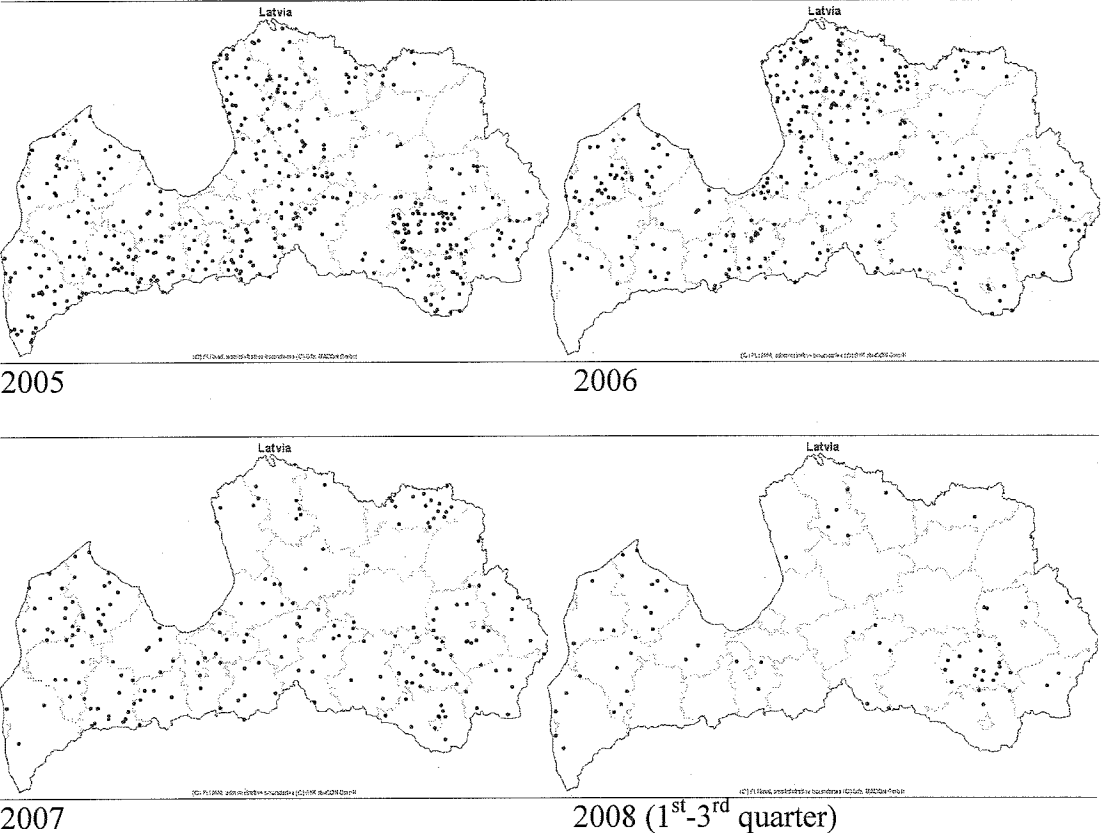


Figure 1: Spread of rabies in Latvia during the years 2005 – 2008. Red dots represent rabies cases detected both in domestic animals and in wildlife.

The next two presentations were given on the oral vaccination campaigns carried out in Latvia between 2005 and 2008.

Latvia comprises an area of 64,635 km². The country has common borders with Estonia (343 km), Russia (282 km), Belarus (167 km), and Lithuania (567 km). The country is flanked by the Baltic Sea in the West and North with a coastline of 494 km in length.

In Latvia, an oral vaccination program of foxes against rabies was implemented in 1998. Whereas in the first 3 years only small-scale vaccination campaigns in certain regions of the country were conducted, between 2001 and 2003 vaccination was extended to the entire country. At this time baits were exclusively distributed by hand. Since 2005, the mode of bait distribution has been changed and distribution of vaccine baits has been exclusively carried out using fixed-wing aircrafts and/or helicopters using a flight distance of 1 km. Along the Russian and Belorussian border a 3 km deep zone remained un-vaccinated by aircraft. In contrast, the whole area along the Estonian and Lithuanian border was covered completely.

During the campaigns the following control measures are taken:

Each flight is documented by registering flight track using GPS.

The number of reports are harmonized with flight track numbers.

Date, time, type of vaccine distributed (batch number), area covered are recorded and signed by responsible persons.

Storage temperature of the vaccine is controlled and registered twice a week by FVS inspectors.

Information on vaccination campaigns carried out between 2005 and 2008 are summarized in Table 3.

Table 3 Size of the vaccination area, vaccine baits used and bait density applied in oral vaccination campaigns during the time period 2005 to 2008.

Year	Territory	Campaign		Bait density	Vaccine
		Spring	Autumn		
2005	27.000 km ² (41 %)	Yes	Yes	23/ km ²	Fuchsoral
2006	64.635 (100%)	Yes	Yes	25/km ²	Fuchsoral, Lysvulpen
2007	64.635 (100%)	Yes	Yes	24/km ²	Lysvulpen
2008 1-10 mo	40.511 (63%)		Yes	25/km ²	Lysvulpen Fuchsoral

With respect to zoonotic diseases, the Food and Veterinarian Service of Latvia (FVS) has established close cooperation with the Public Health Agency. Between the two Bodies there are regular exchanges of information in case of suspicion or confirmation of rabies cases.

The Food and Veterinary Service has good collaboration with the State Forest Service and with hunters.

The Food and Veterinary Service organizes follow-up investigations of oral vaccination campaigns offering an incentive of 10 EURO per hunted fox or racoon dog for hunters.

For controlling the efficacy of oral vaccination of foxes against rabies the following methods are used:

- Rabies surveillance (detection of rabies cases): Fluorescent Antibody test (FAT) and Rabies Tissue Culture Infection Test (RTCIT)
- Seroconversion: Fluorescent Antibody Virus Neutralisation Test (FAVN) and/or ELISA tests
- Bait uptake in target species: detection of tetracycline marker testing the teeth and bones

The results of the follow-up investigations of oral vaccination campaigns for the past 4 years are summarized in Table 4.

Table 4 Results of the follow-up investigations of oral vaccination campaigns for the past 4 years

Year	No. of animals tested	Serology		Tetracyclin marker		FAT	
		Fox	Racoon dog	Fox	Racoon dog	Fox	Racoon dog
2005	1683 (75%)	FAVN 42,4%		53,7%		1,3 %	
		ELISA 14,4%					
2006	3956 (77,3%)	47%	38%	86%	77,8%	23	5
2007	45779 (91%)	50%	41%	77%	65%	15	13
2008 1-10 month	179	50%	42%	74%	50%	0	0

On the second day of the meeting, participants visited the Latvian National Diagnostic Centre, where the National Reference Laboratory (NRL) for rabies is located and both human and veterinarian diagnostic work for rabies is carried out. The Latvian National Diagnostic Centre is accredited by the Latvian National Accreditation Body (LATAK) and also meeting the criteria of the German Accreditation Body (DAP) and of the Russian accreditation system. The applied Quality Management system is ISO 9001. It is introduced since 2005. The Quality Management system according to ISO standard 17025 was introduced in 2001.

The FAT is conducted at the national reference laboratory for rabies at the Latvian National Diagnostic Centre in Riga and in 4 additional local laboratories. The transport of samples takes place every day by special cars. The NRL for Rabies follows the WHO and OIE guidelines apart from testing all FAT-negative samples additionally in RTCIT disregarding possible human exposures.

After several attempts failed to eradicate rabies in the country, a new strategy was launched in 2006. Foxes were planned to be vaccinated twice a year using a bait density of at least 20 baits/ km². Vaccination of dogs and cats is mandatory in the country since 1953. It is planned that from 2010 onwards identification and registration of dogs and cats become mandatory. Since 2006 a considerable decrease of rabies cases was observed both in wild and in domestic animals. In the first 6 month of 2008, only 27 rabies cases were diagnosed in the country.

Beyond the detailed presentations given by the host, Estonia and Poland volunteered to give an update of the epidemiological situation.

Estonia

Sylvatic rabies has occurred in the country since 1968. Last human rabies case was reported in 1986. Every year, between 150-300 rabies cases are diagnosed. The peak of the rabies epidemic was in the country in 2003 when more than 800 positive animals were detected. The oral vaccination was started in autumn 2005, when the eastern, middle and western part of Estonia was vaccinated. Since 2006 the whole territory of Estonia is vaccinated twice a year. In 2006 116, in 2007 4 and in 2008 only 3 cases were found. Since March 2008 no rabies has been diagnosed. The bait density was 20 baits/km².

The vaccination was done by aircrafts, spring and autumn campaigns were carried out. The bait uptake was as high as 83-85%, and the seroconversion was between 40 and 55% during the programme. Since October 2005, vaccination campaigns were conducted by using the SAG2 vaccine.

Poland

In Poland a considerable improvement in the rabies situation was observed. Rabies occurs only in the Eastern part of the country. In 2008, 29 positive cases have been found. Three out of 29 positive cases occurred in bats, the other cases in wild animals (21 cases) and in domestic animals (5 cases). In Poznan region, the flight distance of 500 m had been introduced according to the subgroup recommendation.

Having implemented these measures in a period of a year, rabies disappeared.

ENP countries

Experts from Belarus, Kalinigrad region, Russia and Ukraine shared information about the disease situation in their countries.

Conclusions

The subgroup discussed about the Latvian and regional rabies epidemiological situation and laid down the following conclusions and recommendations.

Rabies is a serious threat for human and animal health. Epidemiologically the Baltic Member States can be considered as one region as the rabies infection dynamics is similar in all the three countries.

Latvia has established a well defined rabies eradication program that started in 2005. Vaccination campaigns resulted in a considerable decrease of rabies cases in the last two years.

Annual vaccination of dogs and cats is mandatory.

Rabies surveillance and monitoring of oral vaccination campaigns is well organised.

Unfortunately, in 2008 contestation of the tendering had a negative impact on the implemented oral rabies vaccination programme. As a result the spring vaccination campaign could not be conducted. Also, the autumn vaccination campaign will not be finished this year as planned and only parts of the country covered with vaccine baits.

Excellent exchange of information with neighbouring MS, e.g. Estonia and Lithuania, on the rabies situation and oral vaccination programmes implemented has been established. There are annual multilateral meetings. Also, attempts were made to establish similar co-operation with neighbouring third countries.

Observations made by the Latvian authorities

Due to the problems encountered with the contestation of the tendering in 2008 veterinary authorities are aware of the fact that this led to cancellation of the 2008 spring vaccination campaign and late commencement of the autumn campaign.

Observations made by the subgroup

The sample sizes for rabies surveillance as recommended by both WHO and the SCAHAW of the EU may be difficult to achieve. Rigorous attempts to achieve this target may simply result in shooting and testing of large number of healthy animals. The priority categories for rabies surveillance should be „indicator” animals, e.g. animals showing clinical signs of rabies, suspect animals, road kills, animals found dead, and animals involved in human and animal exposure, throughout the country.

Recommendations

Quality control of vaccine bait titres should be performed regularly before and during the distribution of vaccine baits in the field.

Considering the progress made in rabies eradication it is recommended to reduce the flightline distance from 1000 m to 500 m.

It is suggested to improve the existing national rabies data base by capturing more data on individual animals, e.g. age, reason for submission to allow better epidemiological analysis.

Follow-up of ORV campaigns should include sampling of animals after spring vaccination campaigns. Age should be determined to allow better analysis of both bait-uptake and seroconversion in adults and young.

It is recommended to type rabies virus strains from vaccination areas to distinguish field from vaccine strains.

With regard to the problems encountered with the tendering process the group feels that there are different external factors that can impact on the delivery of a vaccination campaign. These risks should be taken into account by MS in their forward planning of ORV programmes.

Annex

AGENDA

**TASK FORCE MEETING OF THE RABIES SUBGROUP
RIGA**

Wednesday 26 November 2008 – Day 1 morning session

Time	Item	Speaker
9:00	Welcome coffee	Host
9:20	Short Introduction & distribution of tasks	Commission
9.20- 10.20	Situation of rabies in Latvia Presentation on epidemiological evolution	Host
10.20 10.50	Questions and answers Observations relevant to the presentation	Subgroup
10.50- 11.10	Break	
11.10 - 12.20	Experience and challenges of the organization and execution of the oral vaccination campaign	Host
12.20	Discussions	Subgroup
13.00	Lunch break	

26 November 2008 – Day 1 afternoon session

Time	Item	Speaker
14.30 15.30	Control of efficiency of the oral vaccination campaigns in Latvia	Host
15.30-	Break	
15.45- 16.30	Involvement of stakeholders	Host
16.30- 18.00	<ul style="list-style-type: none"> • Observations concerning the previous presentations • General discussions on the role of control of efficiency of vaccination campaigns in the execution of eradication strategies • Recommendations • Conclusions drawn by the group 	Subgroup
18.15	Close of day 1	

Thursday 27 November 2008 – Day 2

Time	Item	Speaker
8.30-10.00	Short Visit in the NRL	Host
10.00-11.30	Available vaccines Principles of rabies surveillance	Subgroup
11.30	Break	
11.45-12.30	Further cooperation and planning activities in 2009	Subgroup
12.40	Lunch	Subgroup
14.00	Close of the meeting	