



## PREVENTIVE MEASURES OF RABIES IN WILDLIFE IN THE REPUBLIC OF MOLDOVA

Nicolae STARCIUC, Maxim SIRBU

State Agrarian University of Moldova, Republic of Moldova

*Corresponding author:* Nicolae Starciuc, e-mail: nstarciucasm@gmail.com

**Keywords:** rabies, fox, vaccine, baits, vaccination, incidence.

**Introduction.** Rabies is a zoonosis of virus origin with a lethality rate below 100% in animals and humans. The natural reservoir and the main factor in the spreading of the disease in the Republic of Moldova are represented by the foxes. Prophylaxis of the disease in particular is focused on vaccinating domestic carnivores (dogs and cats) as well as wildlife animals (foxes, raccoons, ferrets, etc.). The manual method, traditionally used in the Republic of Moldova to prevent rabies in wildlife, usually has a low rate of immunization of wild carnivores. This led to the development of a strategic plan for vaccination of wild animals using combined methods, manually and the distribution of vaccine baits by plane, a measure used in the bilateral program between the Republic of Moldova and Romania, which was implemented in 2020.

The main topic of the proposed investigations was to establish the epidemiological situation of rabies in wildlife, as well as the analysis of specific prophylaxis measures of rabies in wildlife animals of the republic.

**Material and methods.** The research material was the confirmed positive results of rabies virus obtained from the Republican Veterinary Diagnosis Center, as well as the strategic action plan approved by the National Agency for Food Safety on surveillance and eradication of rabies in the Republic of Moldova. At the same time, there were analyzed the cases of rabies in wildlife during the last 5 years and the dates of implementation of the national program regarding the methods of vaccination of wildlife animals in the Republic of Moldova.

**Results.** In the Republic of Moldova, the studies on rabies cases in wildlife show that despite the annual vaccination of foxes in forest strips, the incidence of rabies in wildlife ranges from 12 to 25% of the total number of positive cases confirmed annually in the veterinary laboratory at national level. In 2020, due to the bilateral program between the Republic of Moldova and Romania, the vaccination against rabies of wildlife animals was carried out via combined, manual and plane approaches, lighters with rabies vaccine being distributed from the plane in area of 50 km on the border with Romania ("TAMPON" area).

Vaccination was performed in 2 stages, in spring and autumn, when the ambient temperature ranges between 4 and 15°C above zero. A total of 1,112,301 baits with vaccines were distributed by plane and 147600 manually. The distribution of vaccine baits by air was 25 baits /km<sup>2</sup>. Epidemiological study data showed that combined methods of vaccination reduced the number of rabies cases in foxes from 29 cases in 2015 to 14 cases in 2020, or the incidence of positive cases decreased by 48%.

**Conclusions.** (i) Foxes are the main vector in maintaining and spreading the outbreaks of rabies in both wildlife and domestic animals, which should be considered as a basic element in eradicating rabies at the national level. (ii) The use of the mixed method of vaccination among wildlife animals (manual and by plane) has shown a higher efficiency, which allowed the reduction of rabies cases in foxes up to 48%.