Rabies control by oral vaccination of wildlife

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Summary: In view of the efficacy of oral vaccination campaigns for foxes, it now appears possible to eradicate rabies in large territories. For such a programme to succeed, trans-border cooperation and supra-national financial support will be required.

KEYWORDS: Disease control - Europe - Fox - International cooperation - Oral vaccination - Rabies - Viral diseases.

Although rabies control by oral vaccination has a short history, it is one of unexpected success during the few years of large-scale application in Europe.

The live, attenuated SAD B19 vaccine has been shown to be effective for a variety of target animal species and completely safe in non-target animals: 30,000 animals (3,000 rodents) were negative for vaccine-induced rabies after distribution of more than five million doses of vaccine. SAD B19 virus can be differentiated from street virus by monoclonal antibodies, and the virus is stable (regarding temperature and genetics).

Mass application of a specifically developed bait has already led to the eradication of rabies in large territories. Tübingen fox baits have proved attractive for foxes, as well as efficient, mass-produceable, storeable (-20°C), water-repellent and inexpensive.

Seroconversion rates in foxes were helpful in evaluating successful strategies for vaccination programmes: out of 7,846 foxes examined from 1983 to 1987, at least 67% had neutralising antibodies.

Mass immunisation of foxes against rabies has shown that:
- for the first time a method is available which offers the possibility of eradicating rabies in large areas;
- the measures taken for foxes offer protection for domestic animals as well as humans;
- the vaccinations meet the requirements of animal protection societies;
- at the same time, these measures help in the preservation of endangered species (e.g. badgers).

Oral vaccination against rabies involves a *political* factor which rules out rejection by specific interest groups. The vaccination costs are acceptable, but future measures are needed such as:

- extension of joint trans-border activities especially to the east;
- supra-national financial support of vaccination programmes for participating countries.