

Risk evaluation in animal disease control: a perspective of a veterinary authority

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The veterinary world and livestock industry have changed considerably in recent decades. Intensive livestock keeping and international trade in animals and animal products have increased worldwide and consumer protection is becoming more and more the standard for activities related to the food chain. Activities of veterinary services have evolved accordingly and are increasingly regarded from the viewpoint of a healthier food chain. Despite this change in activities, animal diseases that are of no consequence for the food chain, be it zoonoses or animal diseases in the true sense of the word, are still of a major concern for all veterinary services.

For Western Europe for example, these diseases include amongst others:

- 'historic' economically and from an animal health viewpoint important animal diseases that have been eradicated from livestock but that can be reintroduced at any moment; e.g. foot-and-mouth disease, classical swine fever, African swine fever and avian influenza;
- animal diseases that are present/endemic in certain areas on the continent or that are maintained by a wildlife reservoir and that can spread out at any moment; e.g. classical swine fever, bluetongue and Aujeszky's disease;
- exotic animal diseases that are pressing on the borders of the continent; e.g. African horse sickness;
- zoonotic diseases – emerging, re-emerging or endemic – such as tuberculosis, West Nile fever and pandemic flu A/H1N1;
- (zoonotic) diseases that show a sudden change in nature; e.g. Q fever.

In each of these examples, the major responsibility for the veterinary authorities lies in performing a sufficient monitoring and surveillance and in managing a good and swift disease control in case of outbreaks, re-emerging or increased prevalence or pertinence of the disease.



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In recent years, in view of the increasingly limited means at the disposal of most veterinary services and in order to make optimum use of the available resources, planning of activities by veterinary services has been based more and more on a scientifically based risk evaluation cycle. In this cycle a given problem or threat is analysed and subsequently moulded into an action plan. Usually, this plan consist in monitoring and surveillance of the disease, in attention for early detection of outbreaks and for factors promoting spread of the disease and in disease control measures appropriate to the situation. Once executed, the results are used to evaluate the original plan. This evaluation, combined with a reassessment of the situation in case circumstances have changed, will lead to the fine-tuning of the action plan and, subsequently, to a continuous cycle of execution, evaluation and adaptation of the plan.

The risk evaluation cycle is the shared responsibility of both the veterinary authorities and the field veterinarians. The former are responsible for the elaboration and evaluation of the plan and for the sensitisation and information concerning the disease, the latter will play a key role in the execution of the plan and in the early detection and risk assessment of the disease.

From the point of view of the veterinary authority, the ideal field veterinarian or field staff should therefore:

- be well trained/skilled in animal diseases;
- be specialised in the species or branch he is working in;
- always keeps an open mind and fight off routine decisions or a routine approach of clinical cases presented;
- be well aware and informed of legislation and the new developments in the field;
- have a good knowledge of the livestock industry;
- be ready to make quick and appropriate use of secondary facilities and second opinions (e.g. laboratory facilities, opinion of peers);

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- act independently (of industry);
- be ready to collaborate with authorities.

For its part, staff doing the assessment and the elaboration and evaluation of the action plan should:

- have a good technical/scientific knowledge of animal diseases;
- have a good practical knowledge of animal diseases;
- have a good knowledge of national and international legislation;
- have a good knowledge of livestock/industrial environment;
- have a good knowledge of national and international trade and trade flows;
- have a basic training in epidemiology;
- be able to pass on information on a comprehensible level.

The challenges that the changed sanitary policy, the altered livestock keeping practices and the increased scope of activities of veterinary authorities pose on the educating and information of a fit-for-purpose veterinarian are numerous and include for instance:

- keeping the knowledge on endemic, exotic, re-emerging and new animal diseases and zoonotic animal diseases up-to-date, both from the point of view of livestock and wildlife diseases;
- making sure that sufficient practical training in disease recognition and identification is organised for field veterinarian, specifically in long absence of a disease in the field;
- fine-tuning education to the specialism that is more and more required in the field, where 3 different types of animal keeping can be observed – that is to say the large-scale industry, the medium-sized (village) holdings and the backyard/hobby holdings – each with their own problems;

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- the continuing increase in scale of the livestock industry, that demands higher standards, poses specific demands with regard to diagnosis and treatment, has more devastating consequences in case of outbreaks and could bring about a conflict of interest as a result of its 'farm-to-fork' approach and its tendency to try to solve its own problems first before turning to the veterinary authority;
- the decrease in first line laboratory facilities;
- the lack of sufficient platforms for peer consultation;
- the sensitisation of field veterinarians on biosecurity and prevention, zoonotic diseases and their importance as first line risk assessors;
- scientific training in veterinary epidemiology.

It is clear that the education of fit-for-purpose veterinarians should not be limited to university nor studies to obtain a veterinary degree alone, but should be continued afterwards as well. Such continuous education can only be achieved by a combined effort of university faculties, post-university education and veterinary authorities that will have to pass on the necessary information in an exhaustive and comprehensive way, organise practical training and create the necessary platforms for peer consultation. A thus educated veterinary corps will then be able to assume its key role in the risk assessment of animal diseases.