

Alternatives to animal disposal including the use of foresight technology and agri-intelligence

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The conventional approach to control of outbreaks of serious animal diseases by massive destruction of animals is increasingly being questioned. While this approach has been reasonably successful in achieving outbreak control, intensification of animal production has resulted in ever larger numbers of animals having to be destroyed in as short a period of time as possible. In order to control highly contagious diseases, the culling involves not only infected and in-contact herds but at-risk herds within a defined area, which results in the destruction of large numbers of healthy animals. For example, in the effort to control the 1997 outbreak of CSF in The Netherlands, 11 million pigs were slaughtered, of which 0.7 million were infected and 1.1 million were pre-emptively slaughtered; 9.2 million were slaughtered for welfare reasons because when they reached slaughter weight they could not be moved to abattoirs on account of animal movement bans. The disposal of such large numbers of carcasses poses environmental challenges as well as the ethical question of whether such large-scale wastage of good protein is tolerable in a world where many people are starving. There are questions about the destruction of rare breeds, which arose in connection with both foot-and-mouth disease (FMD) and highly pathogenic avian influenza (HPAI). There are also social effects: suicides of devastated livestock owners and public horror at the images of cattle pyres during the 2001 FMD outbreak in Britain. The approach should raise serious concern when applied in developing countries, where the killing of poor owners' livestock, quite often without compensation, causes great suffering and usually fails dismally as a control measure. The monograph issue of *Veterinaria Italiana* dedicated to alternative approaches to disease control is therefore a timely publication that deals comprehensively with a highly topical and urgent issue.

The monograph provides the essence of a work-

shop that was held in Canada in June 2000 by representatives of 7 countries (Australia, Canada, Mexico, The Netherlands, New Zealand, United Kingdom, United States) to consider alternatives to animal disposal, as well as follow-up workshops in 2002 and 2004. It is exciting that the initiative was taken by countries whose rigorous requirements for livestock product safety to a large extent inform global approaches to disease control.

The introduction clearly states the purpose of the workshop, namely to respond to the imperative to seek alternative approaches to mass animal destruction and disposal that will effectively control animal diseases. A succinct report on the workshop is followed by 13 papers that propose and evaluate the elements of the new approach. The titles of these reflect the wide range of issues covered: The role of anticipation in enhancing prevention and preparedness; Integrated agricultural intelligence – a proposed framework; The use of vaccination in emergency animal disease responses – advantages and disadvantages; Science and technology foresight: a provocative tool for contending with future challenges in food safety and public veterinary medicine; The animal health foresight project; The use of risk analysis to evaluate alternatives to animal destruction; Employing mass collaborative information technologies to protect human lives and to reduce mass destruction of animals; Evaluating alternative approaches to managing animal disease outbreaks – the role of modelling in policy formulation; The missing calculation – the human cost; The risk communication challenges of mass animal destruction; Simple models to assist in communicating key principles of animal disease control; Emergency response and disease control – a discussion of alternative objectives for zoning in the age of agricultural bioterrorism; Disease control options for emergency animal diseases – necessary yet sensitive elimination of disease. In the Epilogue, the needs, contributing factors, challenges and opportunities for

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alternatives to animal disposal are summarised. Major themes of the monograph are the need to improve our ability to anticipate and thus prevent animal disease catastrophes and the need to ensure wide stakeholder participation in informed decision-making for animal disease control through excellent communication and networking. I found the paper on the animal health foresight project of special interest because it proposes a policy change to *risk management rather than disease elimination*. This approach would favour recent initiatives designed to enable developing countries to participate in international livestock trade without having to be declared free of TADs, for example commodity-based trade.

The monograph is well presented, well written, easy to read and deeply interesting and thought-

provoking. It should be compulsory reading for everyone who is involved in animal health management and disease control, particularly at the policy- and decision-making level, but it will be of interest to a wider readership that includes everybody with an interest in animal and human safety and welfare and a better future for livestock production. It is expensive to buy in hard copy, although undoubtedly a valuable asset, but is also available online at www.izs.it/vet_italiana.

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