INTRODUCTION: PREVENTION

A MULTIDISCIPLINARY APPROACH TO INCREASING PREPAREDNESS AGAINST BIOTERRORISM

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THE OVERALL OBJECTIVE OF THE EU project AniBioThreat is to improve the EU's capacity to counter intentional releases of pathogens with harmful consequences for animal health and, via the food chain, for the health of consumers. Raising awareness of and building up preparedness against possible bioterrorism events are important goals. These aims are furthermore necessary prerequisites for the efficient prevention and/or limitation of possible terrorist or criminal attempts. Thus, the articles in this section focus on preparedness aspects and, moreover, address the comprehensive approach of AniBioThreat, spanning from awareness and prevention to response.

The article "Historic Perspective on Agroterrorism: Lessons Learned from 1945 to 2012" summarizes all confirmed cases of agroterrorism in the past. The good news is that not many cases of agroterrorism have occurred in the past nearly 70 years. However, the illustrated cases show clearly that perpetrators seem to prefer simple and easily obtainable agents to impair the local stability. One important message here is that future efforts have to concentrate on improved forensic analysis of cases thought to be associated with agroterrorism or criminal events, because it may be exceedingly difficult to differentiate between natural and intentional outbreaks. Even limited disease outbreaks in livestock or at the consumer level can cause severe economic and political consequences; hence, the offender does not need to rely on an enormous number of infected animals or consumers to harm agriculture or the society. This article makes clear that terrorists often build on a lack of preparedness. In consequence, the authors raise awareness on

this important aspect of bioterrorism and recommend the development and enforcement of prevention plans.

As a link between awareness and preparedness, the article "Development of a Comparative Risk Ranking System for Agents Posing a Bioterrorism Threat to Human or Animal Populations" introduces an important tool for assessing threats and exposure to threats. This article additionally addresses the need for tools for risk assessment. It describes a generic risk ranking system that allows biological agents to be classified by their probability to be used in a bioterrorism incident. The likely impact of an attack scenario is discussed. This applied semiquantitative approach enables the assessment of risks emanating from pathogenic agents affecting humans and farm animals by including criteria of a comprehensive and selected range of important aspects for both populations. The categorization of biological agents is necessary for setting priorities in terms of prevention efforts and science agendas. It could serve in the adaptation and optimization of preparedness plans by revealing high-risk agents as well as giving support in amending legislation regarding biological threats. Because of the predefined structure of the data collection, the risk ranking system is also relevant for crisis situations, as it allows a quick data overview and hence science-based decision making. Consequently, the view on high-risk agents in relation to possible negative impact on livestock and consumers will lead to raised awareness and should result in optimized preparedness against incidents.

Preparedness comprises not only the theoretical risk assessment of highly pathogenic biological agents in a certain

environment or exposition but also tackles the practical aspects that might be important to consider in case of a bioterrorism event. In the CBRN Action Plan, standardization in laboratory biosecurity management according the CEN standard CWA 15793:2008 is requested by the EU. The article “Harmonization of European Laboratory Response Networks by Implementing CWA 15793: Use of a Gap Analysis and an ‘Insider’ Exercise as Tools” describes an approach to harmonizing Laboratory Response Networks in the framework of AniBioThreat regarding their diagnostic response capabilities as a link between preparedness against and response to biocrimes. The authors conducted an in-

ventory gap analysis regarding the current compliance status of biosafety and laboratory biosecurity management to the CWA 15793 in 5 AniBioThreat partner institutes. The elimination of the identified gaps by full implementation of the laboratory biorisk management in untroubled routine times ensures the rapid execution of necessary measures and efficient cooperation in the Laboratory Response Network in case of a bioterrorism incident. Thus, the paper can provide advice or guidance for other EU lab facilities working with highly pathogenic microorganisms.

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