



Final Report Summary

Mass disposal preparedness
for the poultry industries



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Summary

Disposal of infected material is a core component of the process of eradication and recovery from an emergency animal disease (EAD). Prior planning will make for a much more structured and efficient decision-making process in the event of an EAD.

The tools developed from this project will provide farmers with the means to self-assess their property and develop a report that outlines options available to dispose of large volume mass mortalities on or off their property. This preparedness report will also be useful for decision makers to assess disposal options for an EAD, thus increasing the efficiency of the response.

This report has been written for the chicken meat and egg industries in Australia, but also has relevance for other poultry industries, such as ducks and turkeys.

Objectives

A key objective of the project was to develop tools and resources (guidance information and available resources) for processors and farmers to develop individual operational plans for on- or off-site disposal of carcasses, materials, products and by-products from a farm, allowing them to fulfil their on-farm biosecurity obligations under various state biosecurity and environmental legislatures.

The tools will give farmers the means to self-assess their property and develop a report that outlines available options for disposing large volume mass mortalities on or off their property. The preparedness report will also be useful for decision makers to assess disposal options for an EAD, thus making the response more efficient.

The report also includes a comprehensive literature review on the composting process. Guidelines for emergency poultry mass mortality composting have been presented. These guidelines form the basis of and are a key tool for investigating the feasibility of on-farm composting as part of an on-farm emergency mass disposal preparedness plan.

Background

The Australian poultry industries have experienced a number of avian influenza (AI) and Newcastle Disease (ND) EADs in the recent past. Outbreaks of virulent ND occurred at Dean Park (December 1998, 1999), Mangrove Mountain (1999) and Tamworth (2000) in NSW. Seven outbreaks of highly pathogenic AI (HPAI) have occurred in poultry in Australia, in Victoria, Queensland and New South Wales. Each outbreak was eradicated by adopting a 'stamping-out' policy based on slaughter, disinfection and movement controls, using the AUSVETPLAN as the template for the emergency response.

In 2018, an incursion of Salmonella Enteritidis, which, although it is categorised as a notifiable disease, did not invoke a national slaughter response because no cost sharing agreement was in place. However, as a result of a loss of markets for the eggs, flocks were voluntarily slaughtered, leading to the disposal of hens without the direction of an Emergency Animal Disease Response Plan. Poultry producers were fully responsible for the environmentally safe disposal of their flocks.

There is concern among industry experts that EADs will become more prevalent in Australia due to the rapid expansion of free-range poultry production driven by consumer demand. Some of Australia's poultry industries mass mortality events are not caused by exotic or emergency disease. Natural events, such as drought, bushfires, floods, and breakdown of equipment (power failure, road accident), along with endemic disease outbreaks, have led to unexpected mass flock mortalities.

Research

Stage one of this project was a gap analysis of resources needed for a poultry farmer to prepare a mass disposal management plan. A detailed scoping of local resources available in different regions, and awareness of different Environmental Protection Authority (EPA) considerations across jurisdictions was conducted. It identified that information and available resources regarding mass disposal of poultry industry biomass is fragmented, with various gaps in required knowledge. It also identified the strong need for individual producers to develop emergency disposal plans for their farm. Stage two involved collecting and collating resources,

identifying gaps and developed tools for producers that can be used to prepare a mass disposal plan as part of a greater emergency management plan. The key output from this information is an online decision questionnaire and biomass calculator that links a property's geographical information with environmental and biosecurity regulations in order to pre-emptively provide readily available information to stakeholders to prepare for a mass mortality event.

Outcomes/key findings

Creating emergency disposal plans for individual producers was identified as fundamental. This will help ensure a smooth process in disposing carcasses and infected organic matter quickly and efficiently to minimise disease spread. Each state biosecurity authority is actively involved in EAD preparedness within its jurisdiction. Jurisdictional preparedness is more aligned with large-scale response activities, whereas the activities associated with this project are targeted at on-farm activities, highlighting the segregation of roles and responsibilities between government and private enterprise in an EAD response. State environmental department policy must be acknowledged as a resource and a key consideration in the decision-making process.

Identifying and assessing local resources will always be a difficult component of preplanning. Private enterprise, such as composting facilities, landfill sites and transport companies, where needed for an EAD response, rarely have surplus reserve resources available, so can therefore understandably be reluctant to commit to providing resources, which would disrupt their normal business. The potential risk of contamination with exotic or zoonotic infectious agents also contributes to reluctance and possible refusal to provide off-site disposal services and facilities. During preplanning for mass disposal, the first option to be consider is whether disposal will be on or off-farm. Composting and burial were found to be the most likely methods of disposal for large-scale commercial poultry operations in Australia in a mass mortality event. Other disposal methods, such as rendering and incineration, could be options for smaller-scale scenarios with smaller volumes of biomass. All disposal methods, whether on- or off-farm, involves considerations from the EPA, local councils and availability of local resources.



Implications for industry

The general findings of this project have highlighted that there is a significant amount of activity towards EAD preparation within state agriculture departments; however, there is room for increased coordination between state departments, industry and other key stakeholders in preparing for EAD responses. Current resources are largely government-driven and not necessarily developed with industry. Industry contribution and engagement is a strong, and yet underused, resource. The incentive of poultry industries to plan for EAD needs to be promoted to individual producers, including those who are not contracted to processors, or members of industry associations.

Governments may prefer on-site disposal due to logistical, resource, biosecurity, cost and other considerations. Because the ultimate decision for the disposal method in an EAD lies with the Consultative Committee on Emergency Animal Disease (CCEAD), it is important for producers to be able to provide information on key parameters associated with their property, such as water table levels, suitable burial sites, and nearest landfill sites.

Resources in development

Decision questionnaire tool:

The most appropriate websites for finding relevant information for an on-farm mass disposal plan have been identified and provided in the mass disposal preparedness questionnaire. It is intended that this questionnaire will be available online, with instructions on navigating the sites.

Biomass calculator tool:

The calculation or estimation of maximum possible biomass on a farm at any one time is fundamental when considering suitable disposal options, as is the type and mix of material in the biomass. Because poultry carcasses will degrade in a different way and time compared to litter, manure, and feed, the mix of biomass on a particular farm must be determined as part of the preplanning process. Inputs are needed for each method of on-farm disposal. It is critical to be able to accurately estimate the tonnage of biomass during the planning phase to determine the viability of resources available for each possible disposal scenario.

Acknowledgements

This report is jointly funded by AgriFutures Australia and Australian Eggs Limited, with extensive in-kind support from Primary Industries and Regions South Australia (PIRSA). This report has been researched, developed and written by Rod Jenner, Angela Scott, Margaret Sexton, Wayne Mossop and Kevin Wilkinson. Thanks also go to a number of contributors from various government departments, and particularly to Ray Siddall for his valuable contribution as a chicken grower representative.

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AgriFutures Australia Publication No. 20-056
AgriFutures Australia Project No. PRJ-11301



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