Overcoming Challenges Associated With Carcass Management

Mark A. King and Dennis Wilson, DVM, Bill Seekins, PhD, and Mark Hutchinson

From:

3rd International Symposium on Management of Animal Carcasses, Tissues and Related Byproducts

Connecting Research, Regulations and Response
University of California at Davis

July 21-23, 2009

Introduction

What do you do if your state has a catastrophic event that results in large numbers of animal carcasses that need to be disposed of…quickly?

That was one of the primary topics addressed at the 3rd International Symposium on Management of Animal Carcasses, Tissues and Related Byproducts. During July 21st through July 23rd 2009, experts from around the world joined together at the University of California, Davis campus to openly discuss the issues and challenges surrounding carcass and byproduct management. During this 3-day event, numerous issues and challenges were presented along with potential solutions.

The symposium included a series of "roundtable groups" (sessions) to facilitate open discussions regarding pertinent issues surrounding carcass management. Key session topics included: emergency carcass disposal during natural and other disasters, rendering and landfills as viable carcass management tools, international issues related to carcass management, and overcoming barriers to develop workable carcass disposal solutions. Each topic was discussed over two successive days. Day one was devoted to identification of challenges and important issues, and day two was spent identifying and exploring potential solutions. The remainder of this paper attempts to discuss the common challenges and solutions encapsulated during the roundtable sessions, focusing on one key component of the overall animal emergency response strategy—Carcass Management.

.

Identified Challenges and Solutions Relating to Carcass Management

The overall challenge faced by state and federal officials when an animal carcass disposal emergency arises is being able to respond in a coordinated and effective way. This means that appropriate disposal methods must be available and can be implemented, resources can be marshaled, sites can be developed, appropriate interests can be involved, biosecurity issues can be resolved and the public informed; all in a very timely fashion. How can all these things be handled at once without dropping the ball during a crisis situation?

In order for any disposal strategy to be implemented, several "key" factors must be accounted for. These include: pre-planning of the event itself, establishment of effective leadership and communication, and development of appropriate policies to ensure seamless operations. Research developments challenge existing policies, while allowing the establishment of newer and better approaches to many of the disposal challenges facing us today.

Pre-Planning-Pre-planning is an essential component to any response. It is important to ensure that all stakeholders are included in the discussion process. Additionally, stakeholders need to be included in all subsequent meetings and communications that ensue. The pre-planning process allows you to identify any special needs of all stakeholders, including: the generator, responding agencies, contractors, neighbors and any other interested parties.

The list of stakeholders needs to be carefully crafted such that all potential interested parties are given an opportunity to be part of the process. Never assume that a group or agency does not want to be part of the process, allow them to make the choice. A few groups to consider include: Agricultural agencies (e.g., USDA-Veterinary Services, USDA-Natural Resource Conservation Service, State and Regional Departments of Agriculture and Cooperative Extension), Environmental Regulatory agencies, Public Health agencies, Emergency Management (FEMA and regional authorities), Natural Resources agencies (Marine and Wildlife agencies), private stakeholders (dairy organization, poultry, etc.), Federal, State and local Police Departments, National Guard, FBI and Homeland Security.

Pre-planning allows you to identify key resources, including but not limited to: Agencies and staff to handle mortalities, appropriate individuals and organizations trained in emergency response, biosecurity, identification and regulatory approval of suitable disposal sites, contractors to transport mortalities to identified disposal sites, development of "pre-disaster contracts" so that service interruptions do not occur, and auxiliary resources (e.g., manpower, utilities, housing, sanitary, etc.).

Finally, pre-planning prepares local response agencies to be more successful, and problems that are addressed locally can be more efficiently and expeditiously handled than those that involve state or federal levels. While federal resources are only needed for some of the issues being addressed early in an event, it's not clear whether it will escalate to the point requiring federal involvement so it's best to work in the federal framework and maintain federal documentation standards. However, always remember, "All events start locally, and end locally". To that end, local community response capabilities should be included in every emergency response pre-plan and teams should strive to develop a planning guide that includes check lists to ensure proper deployment of appropriate resources.

Leadership-During a crisis event is clearly not the practical time to develop your leadership strategy. Yet many states and regions have not developed a clear leadership for carcass management crises. Because multiple agencies often approach carcass

management in differing ways, it is obvious that there should be a lead agency to head the response. Because of differences in authorities and goals, a single lead agency may not be possible. Hence, use of the Incident Command System's "Unified Command" principle can help provide structure to the appropriate leadership for an event.

In most states and regions across North America, animal-rearing industries are included under the regulatory umbrella of the Department of Agriculture. As such, these agencies should assume primary leadership responsibility during a carcass mortality crisis. However, many mitigating factors often make this a difficult task. For example, carcass disposal laws vary from region to region, and may often not be based on science. Additionally, there is an "ignorance factor" among the public, governmental agencies, and generators of mortalities regarding carcass management options and the regulations surrounding the various options.

Finally, there is often oversight by many agencies, each of which may have a differing point of view regarding carcass management approaches; resulting in perceived or real "turf issues". There clearly needs to be a single-source for information storage and dissemination that is well advertised and readily available for access by all stakeholders and interested parties. As stated earlier, this entity is often, by default, the state or region's Department of Agriculture. However, as long as information is continually updated and remains available, any entity can serve this function. It is recommended that regional emergency carcass management teams be developed using ICS for their leadership format. This system is internationally recognized and facilitates emergency response activities.

Communication-Just as pre-planning and leadership are essential to the successful initiation of a carcass management response, communication is the key to successful implementation and completion of the entire response strategy. Most emergency response failures occur due to poor or incomplete communication amongst stakeholders prior to and during the event. Issues include lack of information or the failure to ensure timely delivery of essential information. For example, failure to appropriately notify the public during a crisis response runs the risk of perception issues that may damage ongoing operations or forever tarnish community relations. Effective communications actually begin during the pre-planning phase where one develops the response network, whilst also setting the tone for effective communication throughout the response effort.

Regardless, timely information updates need to be provided as a carcass response unfolds. Failure to provide these updates may result in operational confusion, perception issues (as noted above), and ultimately, the deterioration of the operation itself. Identifying all of the interested parties requiring information beforehand greatly facilitates overall delivery of information. Additionally, different interested parties/stakeholders may require different delivery methods (e.g., ethnic communications, general population—news media, actual affected community-fliers, posters, town-hall meetings, etc.). Whatever delivery method you choose, you must remember that your audience has the right to know what's going on, however, they do not need to be briefed on every operational detail.

Finally, risk communication needs to be briefly mentioned here as well. Unidentified risks pose one of the single-greatest wildcards respondents will face. If not recognized, addressed and communicated to all parties early-on in the process, such problems can effectively halt an ongoing response effort, costing valuable time and money. Risk management involves risk identification based on the judgment of scientific and technical experts as to whether a risk is acceptable or not. These experts simultaneously take public opinion into account and must address the public's concerns promptly and in an appropriate manner; all prior to the event response. Risk Management and Risk Communication are increasingly becoming essential in event planning as developing statutes and regulations mandate its incorporation. The ICS is helpful in developing clear procedures for risk assessment, management and communication. Whilst simultaneously developing the ICS command structure, it is equally important to identify an information officer to function within Incident Command who can be the conduit for information flow regarding operational updates and communications with the media an public. For larger events identify information officers from stakeholder agencies who can form a joint-information center.

Policy-Once a disposal plan has been carefully crafted, it is important to memorialize it in policy. Many frustrations exist with current carcass management policies. A common complaint is that carcass laws and rules are not based on science nor are they updated as technology improves. For example, in California, rendering is the primary authorized method for disposal of carcasses. Use of other options is extremely limited by laws and regulations. Development, evaluation and implementation of scientifically sound alternatives have been hindered by the design of the regulatory process. Existing rules make it difficult to even conduct the necessary research to evaluate other methods. In fact, changes in law and regulation had to happen before other methods, such as composting could even be evaluated.

In any event, during an emergency, rules and restrictions may be waived; usually by a local governmental representative. For example, in California during a summer heat wave in 2006, approximately 20,000 cows, along with 20,000 calves and greater than one million chickens and turkeys all succumbed to heat related injuries and had to be disposed of by a number of methods, including: being shuttled to other rendering companies, composted, landfilled, and buried. In order to use options other than rendering, eight counties passed local emergency proclamations so that they could use alternate disposal methods as the state did not. A system allowing for periodic evaluation and updating of laws and regulations so proven technologies could be accepted for use could lessen the need to use proclamations to resolve problems.

As noted in the above scenario, the key factor hindering policy development is lack of information and suitable existing infrastructure to support appropriate and timely carcass management. Just as their needs to be a lead agency or similar partnering agencies, policy should also come from the same structuring. For example, in Maine, the Department of Agriculture takes the lead for all carcass management issues. The Maine Disposal Plan, however, includes numerous state agencies, municipal, industrial and

private and public entities, as stakeholders. In the event of a crisis, the Department of Agriculture incident commander initiates the response and the appropriate agency representatives assume their role. Throughout the whole incident, all decisions flow through the Department of Agriculture.

Quite often, policy is dictated by funding. As a result, efforts should be made to seek out appropriate funding as policy is being developed to ensure that all appropriate resources are adequately provided for. One possible solution involves development of a guidance document that could be used throughout the country to help unify response to disposal emergencies. Minor fine-tuning might be necessary to suit a specific regions needs. The benefit, however, would be that each area would not have to reinvent policy when faced with a disposal emergency. In the end, carcass management teams should develop emergency carcass management plans that are adaptable and flexible, while also sharing management plans on a regional and international scale. The carcass management team should be utilized to evaluate and make recommendations regarding local and state laws and regulations regarding carcass disposal.

Research - An important strategy to make sure that emergency responders have as many carcass disposal tools available to them as possible is to have on-going research directed toward answering critical questions about a variety of potential carcass disposal options. One disposal methodology that received much attention at the symposium was composting. Although it has been proven to be an effective disposal technique in a variety of scenarios, there are still many questions to be answered, including the possible fate of prions in carcass compost and evaluation of the safety risks of composting pharmaceutically euthanized animals. As technology continues to evolve, numerous research needs will undoubtedly develop and continued financial support for research on composting and other disposal technologies is a critical piece of being prepared for the emergency event when it happens. One important avenue would be commnuicating with funding agencies regarding the urgency for financial support in critical areas of carcass management specifically related to Zoonotic diseases and environmental protection.

Summary

A common theme amongst the roundtable participants is that although there has been considerable effort to plan for carcass disposal events, there still is much to be done. Coordination and collaboration of planning efforts regionally and nationally would be of assistance as long as local entities continue to have a key role in developing their appropriate solutions. Communication was recognized as the key essential element determining success or failure of an incident response. One needs to be able to identify and engage all stake-holders to develop solutions. Further, the public needs to be considered in development of communications; risk communication principles need to be applied. Through use of the Incident Command system, multiple authorities are able to effectively lead emergency responses in a singular, coordinated fashion. Methodologies need to be developed to allow laws and regulations to be quickly modified and to take of advantage of the capabilities of the ICS system and to react to and implement new emerging technologies as they become available. Lastly, all of the solutions noted thus

far rely heavily upon adequate funding sources. As such, new funding efforts are needed to ensure that research and extended planning efforts are provided for as we progress.