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## POULTRY

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### LAST WORD Disposal dilemma

#### Disposal dilemma

by Gary A. Flory

If an outbreak of avian influenza occurs, how will poultry companies dispose of the carcasses? I had the opportunity to travel across the country over the last year to discuss this issue, and I found that our preparedness varies widely.

During the 2002 outbreak of low-pathogenic avian influenza in Virginia, we faced the challenge of carcass disposal daily and, in the end, had experience with five different disposal methods. To dispose of 4.7 million birds we used on-site burial, incineration, controlled slaughter, landfilling and composting. A how-to guide on carcass disposal didn't exist at the time, and we made plenty of mistakes. Perhaps you can learn from them.

We buried our index flock on the farm. It was quick, easy and cheap.

Unfortunately, the geology of much of Virginia's poultry production area is not suitable for burying large numbers of carcasses, which made identifying environmentally sound disposal sites difficult and inexact.

After on-site burial floundered, we transported carcasses to sanitary landfills. Our disposal and biosecurity procedures were carefully implemented, but the process generated more leachate than the small local landfills were designed to handle, put stress on limited human resources, disrupted normal landfill operations and generated odor complaints. We quickly discovered that large regional landfills had the resources and expertise the smaller facilities lacked.

As new cases were identified and landfills reached their capacities, we established an incineration site. We burned 2,268 tons of carcasses. Even with careful management, impacts from carcass combustion and decomposition can be significant. Long after the last birds were gone, we were disposing of ash, cleaning up the site and monitoring environmental conditions.

Amid these various methods, we also tried both in-house and in-bag composting. Both operations were only marginally successful.

#### New developments

After the 2002 outbreak, I continued working on carcass disposal issues through my participation in the Virginia Poultry Disease Task Force, USDA Carcass Disposal Working Group and Virginia Pandemic Flu Task Force. As a regulator working with carcass disposal, there are several recent developments that excite me and have the potential to dramatically change how we respond to AI outbreaks.

First is the further development of in-house composting. Work by the late Dr. Lewis Carr, Dr. George Malone, Dr. Nathaniel Tablante and others has shown that in-house composting can be biosecure, economical and environmentally sound. Our limited success in 2002 was due to our lack of knowledge. That knowledge gap has now been filled and in-house composting is positioned to be a leading disposal method in future outbreaks.

The traditional CO<sub>2</sub> method for mass depopulation is labor intensive, often requiring a dozen or more workers within the poultry house. As the news from Asia reminds us of the potential human health impacts from exposure to infected poultry, a new method of mass depopulation is poised to replace the CO<sub>2</sub> method. Recent research has shown that the fire-fighting foam method is biosecure, humane and efficient. Foaming requires one or two workers within the house - a significant improvement over the traditional approach. One new foaming unit can foam a typical poultry house in fewer than 30 minutes with one person in the house. Another foaming technology developed by the North Carolina Department of Agriculture and Consumer Services, has also proven effective. Recently approved by USDA, this method may soon be the standard for mass depopulation.

These are exciting advances, but I hope we will never have to use them.

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