

DISASTER AND FLOOD MANAGEMENT: WHAT WENT WRONG, WHAT WENT RIGHT

James Parsons
Area Specialized Poultry Agent
N.C. Cooperative Extension Service

Approximately 60 NC poultry farms involving approximately 160 poultry houses were flooded by Hurricanes Dennis and Floyd in September, 1999, resulting in the drowning of approximately 1.3 million chickens and 3/4 million turkeys. Disposal of these mortalities and the mix of mortalities with litter presented many "opportunities" that had not been addressed prior to Hurricane Floyd. I will attempt to first identify "opportunities" that arose during clean up efforts following the hurricane. Secondly, I will identify concerns identified by integrator personnel, contract growers, Extension personnel, NCDA & CS personnel, NRCS personnel and elected officials. Thirdly, I will identify positive aspects of the clean up efforts.

"OPPORTUNITIES"

Mortality Disposal

Typical on farm mortality disposal methods (incineration, rendering, on farm burial, and composting) were incapable of "handling" the huge numbers of dead birds. Large scale alternatives had to be implemented.

Incineration is considered the most biosecure method of mortality disposal. The incinerators used on poultry farms are designed for normal mortality disposal. These incinerators are not able to meet the demand of catastrophic losses. The debris burning incinerators, utilized by the FEMA contracted personnel, worked great **FOR DEBRIS BURNING**. It was basically a disaster for incinerating chickens and turkeys because it was nearly impossible to use front end loaders, even with grates, to collect mortality in the poultry houses without getting large amounts of wet litter. The bucket loads of mortalities dumped into the incinerator contained a large amount of this wet litter and basically put the fire out. In defense of the debris burning incinerators, they did do a decent job incinerating hog carcasses when the incinerator was fired with dry wood.

Rendering of catastrophic losses should be the number one disposal method. Rendering provides an opportunity to dispose of large mortality numbers and results in useful by-products. However, in disaster situations rendering also has problems including: 1) many local rendering plants do not want poultry mortality, 2) biosecurity may be jeopardized due

to trucking, 3) rendering plants only want "fresh" dead, (after the flood, it was nearly impossible to collect and deliver fresh dead), 4) many farmers were unable to "get to" the rendering plant, 5) plants were over capacity and 6) power outages *render* rendering plants useless. The State Animal Response Team (SART) has contacted rendering plants across the state in an effort to better utilize their facilities in the event of future disasters.

On farm burial, normally a viable alternative for catastrophic losses, was not an option in many locations because of the high water table. State statutes requires that all buried poultry be placed at least three feet below the surface within 24 hours of the time when the animal's death becomes known. The burial site must be no closer than 300 feet to any flowing water, public body of water or wells. Burial should also be at least 5 feet above the water table. As you can see, it was nearly impossible to meet these statute requirements. NCDA & CS did "relax" these requirements to enable burial of mortalities on some farms and locations. The "relaxed" requirements stated: 1) Burial should be on the highest land available. 2) If possible, the bottom of the burial pit should be above the seasonal high water table. 3) Burial must be at least 300 feet from flowing water, public bodies or water and wells. 4) There must be a minimum of 3 feet of fill over the dead animals. Additional back fill should be crowned to allow for future settlement. 5) After mortality has been covered with soil, the site shall be smoothed, fertilized, seeded and mulched. A minimum of 3 feet of cover must remain. Vegetation should be appropriated for the site. 6) If mortality is removed from the farm, via a public road, the transport vehicle must be leak proof and covered. 7) If burial is not on land owned by the livestock owner, written permission must be obtained from the owner of the land where the livestock is buried. Some mortalities were buried on site but most were buried in community burial sites. All sites met NCDA & CS requirements.

Composting normal mortality is a viable option for mortality disposal. It is also a viable option for catastrophic losses, **IF** dry carbon sources are available. At least one company did use composting for mortality disposal. The "red tape" involved in getting a dry carbon source prohibited wide spread adoption of this disposal method. A carbon source, a fine saw dust waste product, that would work was identified but it took at least 2 weeks to have the source approved by "the powers". Another disadvantage of composting is the time and labor involved, especially following a disaster. The compost windrows must be turned periodically and the finished product land applied and soil incorporated.

Litter Disposal

Several opportunities emerged as poultry farmers attempted to remove the wet litter from their poultry houses, even if the houses contained litter only. It was nearly impossible to locate fields that were dry enough for the spreader trucks to operate. However, most of the litter in the houses contained rotted carcasses or pieces of carcasses and presented a potential human health threat. The litter/carcass mix had to be removed and buried to eliminate the threat of human health problems. The litter/carcass mix was basically a slurry in most cases and could not be removed and transported in its present condition, because it would run out of the "leak proof trucks. Adding a drying material, such as saw dust, appeared to be the logical solution to this problem. This was not necessarily so. It seems that someone at the

federal level thought we would blow the world up if we buried the litter/carcass mix along with a mixture dry shavings. Extension Specialists and personnel, with common sense, from other agencies finally convinced the powers that be, that an explosion would not occur. The explosion did not occur and the houses were finally cleaned out and the mixture buried in approved sites.

FEMA Contracts

Local clean out crews, equipment operators, equipment suppliers and others involved in clean up efforts after a disaster know the local situation. They are much better qualified to "do the job" than "outsiders" that are unfamiliar with the situation and have never worked in poultry or hog houses previously. Much of the damage done to poultry houses and pads during clean up was a result of inexperienced equipment operators. It was virtually impossible for local folks to be contracted by FEMA. They could be subcontracted, at a huge cost to themselves. Efforts are currently underway to reduce this "opportunity".

Equipment

Any time a disaster occurs, the right equipment, properly sized for the job should be a priority. Local people had most of the equipment needed for the task at hand, however, their hands were tied because of the contractual arrangements. Skid loaders with big buckets were needed to remove the litter/carcass mix from poultry houses. The contracted companies came (later than expected) with miniature skid loaders and inexperienced operators. Leak proof trucks and large front end loaders were used by the contracted companies. However, when clean up efforts first started, one truck could not leave the farm until all trucks were loaded. This resulted in a caravan and the loader operators sitting back until all trucks returned to the site. This process was stopped and truck drivers began hauling as soon as they were loaded. Again, local people know the situation and normally have the needed equipment or at least access to that equipment.

IDENTIFIED CONCERNS

On October 19, 1999, approximately one month after the disaster known as Hurricane Floyd, a meeting was held to identify problems faced, future concerns, immediate needs for poultry farmers and positive results of the clean up efforts. This committee consisted of persons identified in the first paragraph of this report.

Some Problems Faced

1. Contact with farms and farmers (growers) was lost. Electricity and phones were out making communication between growers and integrators extremely difficult.
2. Many of the individuals that suffered losses to their poultry farms also suffered the loss of their homes and had to temporarily relocate. This made it even more difficult for

communication to take place. It took several days before the growers and integrators could actually assess losses and damage.

3. Flood insurance for both homes and poultry houses was almost non-existent. No one thought they would ever need flood insurance since no more than 23% of the flooded farms were in a 100 year flood plain.
4. Placement and marketing of animals were disrupted.
5. Transportation was a major concern. Many roads and bridges were washed away making it virtually impossible for anyone to get anyone or anything in or out of the flooded area.
6. RED TAPE was the biggest concern. Even though local people could have handled the clean up efforts, they were told what could and could not be done by someone that had not seen the conditions flood victims were facing.
7. The contracting process was questioned. Contracts should be granted at the local level to local people.
8. The debris burning incinerator was discussed. True it burned debris, but not poultry mortality.

Future Concerns

1. Pre-identified burial sites need to be in place. This will probably involve adjoining counties working together. These sites should meet the "relaxed" NCDA & CS requirements.
2. The right type, size and sufficient equipment must be on hand immediately following a disaster. Local contractors are already in place with most of the equipment needed. Let's use them.
3. Labor can be a problem. Local clean out crews can handle most clean up efforts but maybe prisoners can be used to assist with clean up.
4. Natural Resource Conservation Service needs to continue to have Emergency Watershed Program money available. These monies were a great asset to flooded growers.
5. Experiences from disasters need to be shared. This could help those effected during the next disaster.
6. Alternative mortality disposal methods need to be explored.
7. Each county, farmer and integrator needs a pre-approved disaster plan.

8. An Agricultural Disaster Coordinating Committee should be formed.

Immediate Needs for Poultry Farmers

1. Financial assistance for rebuilding poultry house pads was identified as the top immediate need. Cost share monies were made available to flooded growers. Although this money did not cover the total cost of rebuilding pad, it was a tremendous asset.

2. There needs to be financial assistance for repairing or replacing damaged equipment. It was estimated to cost approximately \$32,000 per house to replace the equipment in a tunnel ventilated broiler house.

Positive Outcomes

1. The cooperation of the National Guard and use of their equipment was greatly appreciated. This cooperation needs to stay in place.

2. The cooperation of local poultry farmers and integrators cannot be stressed enough. Everyone chipped in to get the job done.