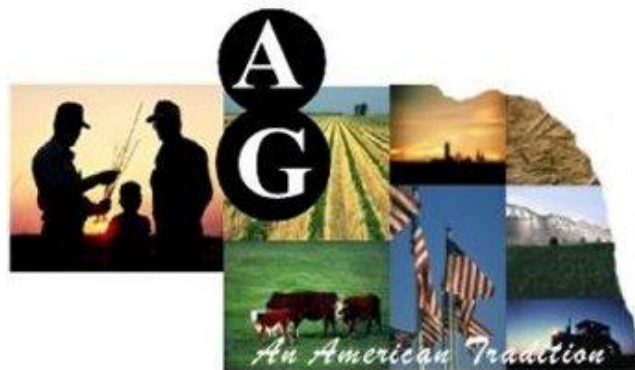


TEMPORARY HOUSING AND CARE FOR LIVESTOCK AND POULTRY

MONOGRAPH No. 003

NEBRASKA DEPARTMENT OF AGRICULTURE
AGRICULTURAL EMERGENCY RESPONSE ACTIONS
LIVESTOCK DISEASE EMERGENCY



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1. SCOPE AND APPLICATION

The purpose of this monograph is to provide functional guidance about the establishment, operation and maintenance of temporary livestock and poultry housing and care. Generally, these activities will be associated with a livestock or poultry quarantine, an “animal movement control order” issued by the Governor, or any other circumstance that places livestock or poultry in the temporary care of a county. Local emergency management should use this monograph as a template or reference to develop an operational plan for providing temporary livestock and poultry housing and care. Operational plans must be consistent with the Local Emergency Operations Plan (LEOP). Several sections of this monograph contain general descriptions of the scope of operations necessary to implement a particular component of the temporary housing and care of animals. In most cases, these sections were made general so local emergency planners could insert or reference more detailed, county-specific operational details. Examples of these sections include Health and Safety, Communication and Public Information.

This monograph is intended to apply to livestock and poultry. It is important for emergency managers to review the surrounding livestock and poultry production, and also the types of animals transported on roads through the county. Based on this review, emergency managers should identify the likely species of animals for which the county could become responsible on a temporary basis. The operational plan for the temporary housing and care of livestock and poultry will be highly dependant on the species of animals that could be temporarily stopped in a county.

This monograph contains information from and is consistent with current National Animal Health Emergency Management System (NAHEMS) guidelines as of July 2012.

2. SUMMARY OF PROCEDURES

This monograph presents the operational considerations and details associated with establishment, operation, and maintenance of temporary livestock and poultry housing facilities.



Emergency managers must remember that several considerations must be evaluated as plans are developed to temporarily house and care for animals. First, planners must remember they will likely need to deal with animals that are not believed to be infected and those that are potentially infected. Wherever possible, these categories of animals should be segregated to reduce the potential to spread an infectious disease. Segregation of herds or flocks by animal owners will help with tracking health and veterinary care provided by the county, and lessens the chance that animals, unfamiliar with each other, will fight and injure each other. Finally, in most cases, different species and animals in different phases of production should not be housed together. This prevents intra-species aggression and injury, and allows caregivers to deliver and track species and production-phase specific care.

2.1. Temporary Housing Locations for Livestock and Poultry

Local emergency planners should identify appropriate locations for temporary housing before the need arises. Publicly owned lands may be easier to use for this purpose. Wherever possible, emergency managers should strive to develop written access and use agreements with the landowners of the proposed areas. An example access and use agreement is provided in Appendix A. The number of temporary locations needed is dependent on the flow of animals being transported through the county and the number of different species involved. When choosing suitable locations, it should be remembered that temporary housing durations can be as short as a few hours to as long as several weeks.

Possible areas for both potentially infected and non-infected livestock and poultry should be identified. The greater the likelihood that animals are infected, the more isolated the temporary housing facilities should be. Local, state or federal veterinarians can assist emergency planners with determining acceptable ranges of isolation distances or setbacks for these areas. These distances will be dependant upon the specific disease agent, species affected, and weather conditions. For the planning process, counties should consider a worst-case scenario. In the case of a FAD, the worst case would involve a highly contagious disease, like Foot-and-Mouth Disease, which can be spread in an aerosol form. In addition, thought should be given to the use



of a temporary holding area as a mortality disposal site if the temporarily housed animals must be euthanized.

Ideal temporary housing and care areas would include the infrastructure necessary to house (isolate and shelter), feed and water, and manage wastes associated with the species in question. These sites should provide access for feed and water delivery to the animal housing areas. The sites should be easy to secure, protecting the community from animals wandering off, and protecting the animals from human visitors and scavengers. In addition, these sites should provide adequate area to store livestock or poultry transport vehicles during the emergency.

Possible sites might include: fairgrounds, abandoned or empty feedlots, abandoned or empty confinement buildings with adequate ventilation, airports, airplane hangars, conservation reserve program land (with a special-use exemption), livestock auction markets and fenced pasture. Ultimately, any facility that can be modified to safely house livestock should be considered. General guidance on space considerations for likely animal species to be involved in a temporary housing and care situation are provided in Appendix B. Where the appropriate infrastructure does not exist, emergency planners should identify the supplies and suppliers of the equipment necessary to house (isolate and shelter), feed and water the animals, as well as manage wastes associated with the species in question (See Section 2.2.2 *Equipment*).

2.2. Housing and Caring for Livestock and Poultry

The temporary housing and care of livestock and poultry involves two distinct activities: (1) unloading and loading animals, and (2) housing and caring for animals. These activities should be carried out in light of proper cleaning and disinfection (C&D). (See Monograph No. 004, *Cleaning and Disinfection*.)

2.2.1. Unloading and Loading Livestock

Personnel involved with poultry or livestock handling must be thoroughly trained in all aspects of animal handling and care. These skills will be necessary to effectively carry out the tasks



required of them. Animal well-being must be maintained during the unloading and loading process.

Generally, poultry will be unloaded from their transport truck by manually or mechanically carrying their transport coops to the temporary housing area. Records of the initial stocking density of each area should be documented (see Appendix C). Once in the area, the coops should be opened and the birds should be released into the housing area. The coops should be stored either back on the trucks or on some other portion of the area. Care should be taken to ensure that poultry from different flocks are not mixed. C&D of the transport equipment may be necessary prior to it leaving the site. (See Monograph No. 004 *Cleaning and Disinfection*.)

When it is time to reload the birds onto the trucks, the coops will need to be brought into the housing areas, and the birds will be manually caught and placed into the coops. Coops should be loaded, so there is room for each bird to sit without sitting on another bird. Poultry should have feed and water available to them until the catch begins. Professional catch crews can be hired to perform this task.

Under the direction of the responding lead veterinarian and possibly in cooperation with the owner(s) of the poultry or their representative(s), personnel in charge of caring for the poultry should go through the temporary housing area just before loading in order to cull any unfit birds. Unfit birds are ones that are lame or sick and probably would not survive the catch and transport. One method to determine the condition of poultry is to apply the modified Kestin Gait Scoring to identify lame birds (Garner et. al., 2002). Birds which are visibly unfit before loading must not be transported but instead immediately euthanized. Cervical dislocation and CO₂ are acceptable methods of euthanasia. Selected euthanasia methods should be listed as “acceptable” or “conditionally acceptable” by the American Veterinary Medical Association (NAHEMS, 2011). All feeders, waterers and other obstacles must be raised or removed from the housing area prior to catching to minimize the risk of bruising the animals. Careful documentation of identity and numbers of birds euthanized and the method and place of disposal should be kept. (See section 2.6 of this monograph.)



Catching should take place in low lighting to minimize fear reactions in the birds. Poultry should be caught individually by grasping one or two legs, just above the feet. Care should be exercised to ensure birds can be held comfortably without distress or injury, and carrying distances should be kept to a minimum. No more than five birds should be carried in one hand (National Chicken Council, 2003).

Livestock will generally arrive in some type of trailer. These trailers will need to be directed to a loading ramp constructed on the edge of the temporary housing area. This loading ramp will need to be adjustable in height since it is likely that a variety of trailers will be unloading at the area. The ramp should not be steeper than 20 degrees, or it may cause animals to slip. (American Meat Institute, 2003.) Ramps should be fitted with some type of non-slip surface, such as cleating or grooving. The ramp should lead into an alleyway with holding pens situated along its sides. As animals are off-loaded, they can be directed into the appropriate holding pen. The number, species and condition of the animals that are unloaded should be documented (see Appendix C). If possible, holding pens should be loaded to a capacity where the animals still can lie down without being on top of each other. Animals from different herds should not be mixed, animals from different production phases should not be mixed, and different species should not be mixed in a pen. The use of electric prods should be discouraged; instead, non-electric devices, such as streamers on a stick or some type of rattle paddle, can be a functional alternative. The animals' transport trailers should be stored at the temporary housing and care site. C&D of the transport equipment may be necessary prior to it leaving the site. (See Monograph No. 004, *Cleaning and Disinfection*.) When it is time to remove the animals, the unloading process is reversed.

2.2.2. Housing and Care of Livestock and Poultry

Temporary housing areas should contain the animals, shelter them from weather extremes, isolate them from scavengers and wild animals, provide adequate ventilation, and allow for manure and urine to be contained and eventually removed. These housing areas also must be fitted with appropriate feeders and waterers. In addition, an animal housing facility should provide separate housing for sick animals or those requiring veterinary care.



As emergency planners prepare a temporary housing and care for livestock and poultry plan, they should confer with local veterinarians, producer organizations or cooperative extension specialists to obtain plans for providing poultry or livestock housing on a temporary basis. Nebraska Cooperative Extension resources can be found by contacting the appropriate county office listed in Appendix D. The Midwest Plan Service (MWPS) is a commercial source of guidance about animal housing and care. MWPS can be reached at (800)-562-3618, by Fax at 515-294-9586, or online at <http://www.mwps.org>. Planners should make allowances in their planning for the various phases of livestock or poultry production that they are likely to encounter. Again, it should be remembered that temporary housing durations can be as short as a few hours or as long as several weeks.

Generally, livestock can be housed in pens, either outside or inside buildings. Poultry should be separately housed or penned in order to maintain ownership identity. Careful documentation of ownership identity and numbers should be maintained. (See section 2.6 of this monograph.)

2.2.3. Personnel

Personnel working at these temporary housing and care areas should have relevant experience with livestock and poultry care and handling. Common tasks associated with these areas will include: feeding, watering, healthcare, manure management and animal movement. These workers should understand animal behavior and common animal illnesses or injuries in order to provide adequate care. In addition, they should be aware of the risk of traumatic accidental injury to themselves from the unpredictable behavior of livestock. Personnel with the above “relevant experience” should be pre-selected, if possible. The county attorney should evaluate the volunteers’ liability relative to assisting the county in the response to a livestock or poultry emergency. Every effort should be made to limit or remove associated liabilities for volunteers. In some cases, local producers or aligned industries may be able to supply personnel.

Two concepts that strongly influence livestock behavior are the *flight zone* and the *point of balance*. The *flight zone* is similar to what humans call “personal space.” If someone you are not familiar with enters your personal space, you will become uncomfortable and probably move



away from them. Likewise, if you enter an animal's *flight zone*, the animal will move away until it feels safe. If you stop moving into or retreat from the *flight zone*, the animal usually stops moving away. The size of an animal's *flight zone* is shaped by the following: breed or species type, sounds and visual cues, an animal's wildness or tameness, and by the animal's recent experiences (especially with humans).

The *point of balance* is directly related to an animal's *flight zone*. The *point of balance* can vary from species to species, but is generally near an animal's shoulder. It determines the direction the animal is likely to move when its *flight zone* is penetrated. If you approach an animal from in front of its *point of balance*, it will move backward. Approaching from behind the point makes the animal move forward.

Personnel working at a temporary livestock or poultry housing and care area should be familiar with the *point of balance* and *flight zone* concepts, and the following tips to prevent unwanted impact on animal behavior (adapted from American Meat Institute, 2003):

- Livestock and poultry are generally sensitive to rapid and unexpected movements. Rapid or unexpected movement can cause animals to become agitated and excited, in some cases, to the point of creating a health concern or causing them to injure themselves or even response personnel. Response personnel must remember to move slowly, steadily, and to avoid abrupt or sudden motions.
- Most species of livestock and poultry are at least partially color blind and have poor depth perception, making them extremely sensitive to contrasts. A shadow across a walkway may look like a deep hole to the animal. This is why animals often hesitate (balk) when passing through unfamiliar gates, barn door openings or chutes.
- Many species of livestock may have difficulty moving from dark places to brightly lit places, and vice versa. If moving animals through changing light levels, allow them time to adjust to new light levels before moving them forward. Rushing them may cause them to balk.
- Most species of livestock have good hearing and will try to move away from the source of unfamiliar or unpleasant noise.
- Animals draw on past experiences when reacting to a situation, so animals that have been chased, slapped, kicked, hit or mistreated will have a sense of fear around humans. These animals will have a large *flight zone*. Many animals have an inherently large *flight zone*, even with no prior unpleasant event.



Personnel will be assigned to work at these temporary housing and care areas for shifts with lengths determined by the planning staff. In most cases, these workers will need to be provided food, water and sanitary facilities.

The response team involved with the temporary housing and care of livestock and poultry should also be assigned at least one supporting veterinarian. This veterinarian will be responsible for providing medical care to sick animals and ensuring biosecurity for the temporarily housed animals. Contact information for this veterinarian should be provided to each team assigned to work a temporary livestock or poultry housing and care area.

It is necessary to provide 24-hour security monitoring for the animals' protection and for protection of the public. Local law enforcement or other volunteers may be used for this purpose.

2.2.4. Equipment

The following list of equipment may be needed to establish a temporary livestock or poultry housing and care facility:

- Livestock housing: portable squeeze chutes; livestock panels; portable fencing; species appropriate feeders (wet/dry, trough, bunks, etc.); species appropriate waterers (nipple, trough, tanks, etc.); ramps; prods (electric or non-electric); hoses; pumps; shade structures or supplemental cooling (fans, sprinklers, misters, etc.); shelter from weather extremes; bedding, manure removal equipment (shovels, scrapers, tractor, etc.); and species-specific feed and water.
- Poultry housing: waterers (i.e., can, bell, etc.), water, feeders, feed, grit, bedding, solid wall panels, small mesh chicken wire, and bird netting to cover temporary structures.
- Lighting: Lighting should provide general area illumination for staff working at the temporary housing area. With any lighting system, it will be necessary to provide electricity, either with batteries, generators or drop service from power lines. Note that the use of a drop service will require coordination with the local power company.
- Communication: Each temporary animal housing and care team should be provided a means of communication with incident command (IC). Generally, this will consist of portable radios tied into the IC's frequency. Selection of radios should consider local topographic and cultural interferences that could negatively impact transmission and reception. If line-of-sight or distance becomes a limiting factor, the use of portable



antennas or repeater towers may be necessary. In some cases, pagers, cellular phones, citizen band radios or other devices will be appropriate. Whichever system is chosen, it must be compatible with other systems used in the Unified Command and must have the bandwidth or capacity to function effectively during an emergency.

- Cleaning and disinfection supplies (see Monograph No. 004 *Cleaning and Disinfection*).
- Portable sanitary facilities: Since it is possible that these services will be needed over an extended time, a cleaning and pumping schedule will need to be established. (See Monograph 004 *Cleaning and Disinfection* for appropriate cross-references.)

2.2.5. Monitoring Animals

The Operations Section will need to develop a schedule for response personnel, charged with the care of these animals, to periodically monitor animals' health and to feed and water the animals. Veterinarians in the Command Staff can work with the Operations Section to determine the frequency of feedings and animal monitoring needed for each species that a county is likely to house. Monitoring the general health and condition of animals should be conducted at least daily. These inspections should be tied to daily feedings and waterings. Any mortalities identified during these inspections should be removed from the animal living areas and disposed of promptly. Potentially infected mortalities should be disposed of on site, if possible. (See Monograph No. 002 *Mortality Disposal*.) Common disposal methods include burial, composting, rendering, incineration and taking the carcasses to a landfill licensed to accept dead animals. The selection of the most appropriate disposal method will depend on available local resources. If sick animals are noticed during the monitoring, response personnel should contact the supporting veterinarian immediately and request assistance.

Careful documentation of ownership identity, numbers of animals euthanized and the method and place of disposal should be kept. (See section 2.6 of this monograph.)

2.3. Biosecurity

Micro-organisms, viruses, and spores associated with the spread of a foreign animal disease (FAD) can spread to non-infected animals in many ways. A general description of common FADs and possible means of transmission are presented in Table 1, below. Many of the mechanisms for disease spread cannot be controlled by responders (e.g., mechanisms associated



with weather). Responders can directly control some mechanisms for spread. These mechanisms involve the spread of a disease through human movement, and the reuse of equipment and vehicle movement. FAD agents can survive in soil, fodder, manure, feed, bedding, building surfaces, on equipment, on animals, and in the atmosphere at an infected location. Responders can be exposed to and become carriers of the FAD agent by simply being in the atmosphere of the infected location, or by stepping in or otherwise contacting materials or objects that are contaminated. Besides being found in the visible contamination, such as dirty boots or coveralls, the FAD agents can adhere to clothing, hair and skin, if airborne. Biosecurity is a system designed to prevent the spread of disease into a healthy herd or flock and to prevent the spread of disease from an infected herd or flock.

Table 1
Foreign Animal Diseases

Disease	Species Affected	Transmission	Category of Virus
African Swine Fever	Swine	Ingestion, contact, ticks	A
Influenza (avian, equine, swine)	Birds, horses, swine	Aerosols, ingestion	A
Newcastle Disease	Birds	Aerosols, ingestion	A
Rinderpest	Ruminants, cattle	Aerosols, ingestion	A
Peste des Petis	Small ruminants	Aerosols, ingestion	A
Foot-and-Mouth Disease	Cloven-hoofed animals	Aerosols, ingestion	B
Swine Vesicular Disease	Swine	Aerosols, ingestion	A
Classical Swine Fever	Swine	Contact, ingestion	A
Porcine Respiratory and Reproductive Syndrome (PRRS)	Swine	Contact, aerosols	A

Notes: Modified from Agriculture and Resource Management Council of Australia and New Zealand, 2000. See Monograph No. 004 Cleaning and Disinfection for more details.

Virus Category A. Best disinfectants are detergents, hypochlorites, alkalis, Virkon® and gluteraldehyde.

Virus Category B. Best disinfectants are hypochlorites, alkalis, acids, Virkon®, and gluteraldehyde.

Bactericides like quarternary ammonia compounds and phenolics are not effective against these viruses.



In order to preserve herd or flock health and prevent the spread of disease, local emergency planners should develop biosecurity guidelines for temporary livestock and poultry housing and care areas. All personnel associated with creating, operating and maintaining these areas should be required to conform to the county's biosecurity guidelines. Possible biosecurity guidelines should include the following:

- Workers may be required to wash and disinfect their vehicle or its tires prior to entering and leaving the temporary housing and care area. Local veterinarians should be consulted on the need for this level of biosecurity. (See Monograph No. 004 *Cleaning and Disinfection* for appropriate cross-references and details.)
- Workers and all visitors who enter and leave the temporary housing and care area should be required to sign in and sign out.
- Workers should be required to maintain a 48-hour, animal-free period prior to entering the temporary housing and care area. Visits to state fairs, zoos and other places where animals are housed must be figured into the animal-free day calculation. In the case of poultry, response personnel must eliminate contact with pet birds (even being in the same house), or other bird gathering areas, such as feeders. Depending on the species involved and the potential risk, these animal-free periods can be modified, especially if unique crews can be assigned to each area.
- Workers should be required to wear clean clothes, typically including coveralls, head covering and boots. (See Monograph No. 004 *Cleaning and Disinfection* for appropriate cross-references and details.)
- The veterinarian in charge may require that workers shower before entering and prior to exiting the temporary housing and care area. If this is done, local emergency planners must plan for the supplies and equipment necessary to provide this option.
- Workers should disinfect portable equipment prior to entering or leaving the temporary housing and care area.
- Workers should not wear jewelry into the temporary housing and care area.
- Workers should work on animals from areas of youngest animals to oldest animals when phases of production are co-located at a temporary housing and care area. Veterinarians should be consulted on this order for the various species considered.
- Workers should utilize boot disinfection solutions provided at the temporary housing and care area.

Biosecurity measures implemented to enter the temporary care and housing area should be repeated upon exiting the area (see Monograph No. 004 *Cleaning and Disinfection*).



2.4. Health and Safety

General first aid and access to emergency medical services must be provided at all temporary animal housing and care locations. The Safety Officer, a member of the Command Staff supporting the Unified Command, would coordinate this portion of a response.

Personnel working with these livestock or poultry should be aware of the dangers associated with handling livestock. In addition they may be provided personal protective equipment (PPE) to minimize their exposure to the animals. While most of the FADs that may be encountered are not zoonotic, the use of PPE is still necessary to maintain personal hygiene and facilitate C&D upon leaving an infected zone. In the event a FAD response has the potential to expose workers to possible infection, PPE will be used to provide both dermal and respiratory protection. The Safety Officer and the State Veterinarian will determine the need for and specific types of PPE.

Generally, temporary animal care and housing workers should wear disposable clothing or clothing that can be disinfected and reused. This clothing should have a subdued color, not a bright white, and it should not fit so loosely as to make unwanted sudden noises when the wind blows. Rubber gloves and rubber boots or disposable boot covers also will be needed. These items can be disinfected and reused. Under gloves, cotton or nitrile, should be worn under the outer rubber glove.

Dust masks can be worn to protect the workers' mouths, preventing the possible ingestion of splashed materials. If the FAD is zoonotic, increased respiratory protection may be needed. Generally respiratory protection may be provided by a disposable filter-type respirator, a full or half-face respirator with the appropriate filter cartridge or a powered air-purifying respirator with the appropriate cartridge. The proper use of any type of air purifying respirator will require a successful fit test for the user and the specific respirator being used. The criteria for a successful respirator fit test are defined in guidelines produced by the Occupational Safety and Hazard Administration. Cartridge selection should be based on the type of respiratory protection required.



According to NAHEMS 2011, all responders associated with a FAD emergency who use PPE must:

- Understand why they need PPE (i.e., appreciate the importance of PPE in minimizing the spread of the disease agent and in preventing occupational injuries and diseases).
- Understand that PPE is required because acceptable levels of hazard exposure have not been reduced by feasible engineering and administrative controls.
- Understand the consequences of unprotected exposure and thus the rationale for compliance with proper procedures for the use of PPE and devices.
- Learn to recognize when equipment is not functioning properly so that it can be repaired or replaced as needed.
- Understand the limitations of PPE, particularly in emergency situations.
- Understand that PPE can impose limitations on normal movements and activities (movement, dexterity, senses [e.g., hearing, sight], etc.).
- Understand that a physiological burden on the wearer of PPE may not be anticipated.
- Be trained, fit-tested and medically cleared for the required PPE.
- Be able to inspect, fit-test, don, doff, clean and disinfect, replace as necessary, and maintain PPE and devices.
- Appreciate the importance of the “buddy system” in using PPE and devices safely and effectively.

The use of PPE should be evaluated in conjunction with worker safety related to conducting their appointed duties while wearing PPE. PPE increases the physical and psychological stress associated with response work. A responder’s manual dexterity, agility and stamina are generally impacted by the need to use PPE. Heat-related illness and fatigue are common side effects of wearing PPE. Much of this secondary effect is weather related. The use of PPE in hot weather may necessitate frequent breaks to protect worker safety. The use of a respirator can cause feelings of claustrophobia, create communication difficulties and impair vision.

Appendix E presents the general PPE guidelines in the NAHEMS operational guidance manual on PPE.



2.5. Communication

Because of the dynamic nature of an emergency response to a FAD, the establishment and maintenance of temporary animal housing and care facilities must be coordinated with the ever-changing understanding of the nature and extent of the disease in question. In order to allow the teams in charge of the temporary housing and care areas to quickly respond to changing field conditions, communication between the teams and the IC must be maintained. Real-time communication and pre-shift meetings constitute the required communication needed to support temporary animal housing and care areas.

2.6. Documentation

Throughout the process of providing temporary animal housing and care, it will be necessary to provide various types of documentation. For indemnity payments to the responding agency or other forms of state or federal reimbursement or cost sharing, it will be necessary to document the resources applied and expended in providing temporary housing and care. Much of the required information may be contained on the initial data collection form presented in Appendix C. Appendix F provides an example data collection sheet for recoding information related to the care and monitoring of temporarily housed animals.

These costs can include labor charges, equipment rentals or purchase, costs of expendable equipment or supplies such as feed, subcontractor costs, or any other costs associated with providing the temporary housing and care services. Most of this information will be collected and evaluated by the Finance and Administration Section.

Because of the nature of an emergency response, it is critical to identify personnel who will have the responsibility of documenting these issues or monitoring and verifying that other parties are collecting the needed documentation. In some cases, identifying a specific response job that includes documentation will be preferable, especially if personnel will be rotated through shifts and response jobs. This role and responsibility should be identified and described in a county's LEOP.



Possible actions or items that should be included in a documentation checklist include:

- Number of animals in an area
- Condition of livestock or poultry
- Responder time (hours)
- Number of responders
- Identity of responders
- Mileage to the animal care area
- Sanitation services provided
- Coordinates of care areas
- Feed used
- Water provided
- Care providers (vet services)
- Mortalities and causes
- Number of livestock or poultry at a location
- Meals provided
- Location of each responder
- Equipment at each point
- Usage time for equipment
- Specific quantities of expendables used

Documentation also will be essential in tracking vehicles, heavy equipment, and people who exit and enter the temporary livestock or poultry housing area.

Documentation should be maintained in written form. Video, photographs and tape-recorded messages can be used to supplement the written documentation. Written documentation can be maintained in a logbook format, using documentation worksheets, or a combination of both. Documentation should be recorded with an ink pen, and any entry errors should have a single line drawn through them with the author's initials and date recorded at one end of the line. If a logbook is used, it should have numbered pages and the spine should be sewn, making the removal of pages both difficult and obvious. Pages should never be removed from a logbook. Anyone making entries in the logbook should sign and date the bottom of each page. If documentation worksheets are used, the author should sign and date the bottom of each worksheet. Sets of logbooks and worksheets should be assigned to each response task (i.e., traffic control, cleaning and disinfection, mortality disposal, etc.) or a master set of logbooks and sheets can be maintained. Logbooks and worksheets should be assigned unique identification numbers. When the logbooks or a group of worksheets are issued from Planning (response related) or Finance and Administration (cost and time reporting related) to a responder, the identification numbers of the logbooks and worksheets should be recorded and the recipient should sign them out in a document-tracking log maintained by the issuing Section. This establishes a chain-of-custody for the documentation.



If pictures, video, or taped messages or interviews are used to supplement the written documentation record, the following information should be documented for each picture, video segment or audio-taped message or interview: photographer or interviewer, subject, time, date, person interviewed (video or audio taped), photo and film roll number, direction (pictures and video), and general weather conditions (i.e., temperature, wind direction, humidity, sky condition, etc.).

2.7. Training

Personnel training can be an important component of planning to initiate a temporary animal housing and care plan due to either quarantine, a stop animal movement order issued by the Governor, or other circumstance. Besides the livestock and poultry-handling experience, all personnel associated with the temporary housing would benefit from training in: biosecurity, FAD, the operation and maintenance of the disinfection equipment, disinfection procedures, associated environmental protection issues, and documentation requirements. Cooperative extension personnel, Livestock Emergency Disease Response System (LEDRS) veterinarians, and other qualified state and federal employees can provide animal care and handling training to responders. The local fire and emergency medical services personnel can provide training in cleaning and disinfection. In some counties, law enforcement and local public health personnel also can provide cleaning and disinfection training. Local veterinarians can provide training in biosecurity.

2.8. Public Information

Once a livestock or poultry emergency occurs and the county is called upon to provide temporary animal housing and care, the Public Information Officer (PIO) attached to the Command Staff will initiate the county's public information and media plan to inform the local community of the situation. This notification may involve public announcements via radio, television, web site, newspaper, signage announcing the traffic control points, or any other appropriate mechanisms to inform the public of the county's response to the emergency.



Locations of these temporary animal housing and care areas should not be made public. Any information release should be coordinated with state or federal public information agencies. Local appointed public information officers and spokespersons should identify and make use of any state or federal pre-prepared information or press releases that could be used in responding to a FAD.

In general, response workers should be trained to refer any press or other project-specific inquiries to the public information officers designated for the response.

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APPENDIX A

TEMPORARY HOUSING AGREEMENT

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TEMPORARY HOUSING AGREEMENT

THIS AGREEMENT is made effective as of this ____ day of _____, 2013, by and between, _____ County (“COUNTY”), and _____ (“Landowner”).

WHEREAS, COUNTY, in response to a foreign animal disease (FAD), is required by the State of Nebraska to temporarily house and care for livestock or poultry to prevent the spread of a FAD, COUNTY will utilize the land and existing infrastructure of the Landowner, to temporarily house and care for livestock or poultry (“TEMPORARY Housing Area”), in _____ County, Nebraska, hereafter referred to as the “Housing Area.”

WHEREAS, Landowner owns the Housing Area and more particularly described as follows: Township ____, Range ____, Sections ____, and ____ in _____ County, Nebraska; and includes the following infrastructure:

- _____ Barns
- _____ Animal Pens
- _____ Waterers
- _____ Feeders
- _____ Shade Structures
- _____ Manure Storages
- _____ Other (_____)
- _____ Other (_____)

NOW THEREFORE, the parties hereto agree as follows:

1. Right to House _____, hereafter known as “animals.” Landowner grants to COUNTY the right to house no more than _____ animals on the Housing Area. Landowner agrees to cooperate with COUNTY in all reasonable respects to facilitate the housing and care of the animals. COUNTY shall have the right to enter the Housing Area to construct or install necessary temporary infrastructure, including penning, water storage, manure storage, shade structures and any other infrastructure necessary to

temporarily house and care for the animals. Right-of-entry and the right to construct infrastructure is only provided by the Landowner upon the issuance of an animal movement control order, issued by the State of Nebraska and including the county in which the Housing Area is located.

2. Right to House and Care for Animals. COUNTY agrees to cooperate with Landowner in taking all reasonable and necessary actions to ensure that the temporary housing and care of the animals on Landowner's Property shall not unreasonably interfere with customary agricultural land management practices. In return, COUNTY agrees to maintain the Housing Area by implementing good farm husbandry practices, including harvesting and storing or spreading manure in an environmentally protective manner.
3. Animal-Specific Information. Upon Landowner's request, COUNTY shall provide to Landowner information concerning the health and care of animals in the Housing Area. This request can be made up to one year after the FAD incident has been mitigated in the County housing the Housing Area.
4. Compliance with Environmental Laws. COUNTY agrees to take all action necessary to comply with federal and state environmental laws and regulations. COUNTY warrants that the temporary housing and care of animals in the Housing Area will not violate existing Nebraska regulations governing the FAD response.
5. Successors. The rights and obligations of COUNTY in and to this Agreement shall inure to the benefit of, and bind its successors and assigns. The rights and obligations of Landowner in and to this Agreement shall run with the title to the Landowner's Property and shall accrue to the benefit of, and bind, all persons holding, or claiming to hold, a property interest therein.
6. Term. This Agreement shall continue for a term of five (5) years from the date of this Agreement. This Agreement shall automatically renew for another 5-year period unless written notice is given by either party at least ninety (90) days prior to the expiration of

the Agreement. Notwithstanding the foregoing, COUNTY may terminate this Agreement prior to its stated term if (a) it is so directed by the State of Nebraska, or (b) COUNTY delivers notice to Landowner that compliance with applicable laws and regulations would be unduly burdensome as described in Section 8 hereof.

7. **Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Nebraska.
8. **Right to Deny Use of the Housing Area.** During the term of this Agreement, Landowner may deny COUNTY the right to temporarily house and care for animals, provided Landowner gives COUNTY written notice of such decision at least one year prior to the date use is denied. During a response to a FAD during the term of this agreement, COUNTY may in its sole discretion decide not to temporarily house and care for animals on Landowner's Housing Area. COUNTY may exercise its sole discretion not to temporarily house and care for animals should COUNTY believe that compliance with any applicable laws, regulations or any other circumstances would make it unduly burdensome or impractical to house and care for animals on Landowner's Housing Area.
9. **Indemnification of Landowner.** COUNTY shall indemnify and hold Landowner harmless from and against all claims, losses, demands and causes of action, including attorneys' fees, court costs/or judgments arising in favor of any person or other legal entity (including COUNTY's employees, agent invitees, contractors, tenants or licensees), provided such claim, loss, demand or cause of action is the result of the negligence or misconduct of COUNTY, its employees, agents, tenants or invitees.
10. **Indemnification of COUNTY.** Landowner shall indemnify and hold COUNTY harmless from and against all claims, losses, demands and causes of action, including attorneys' fees, court costs/or judgments arising in favor of any person or other legal entity (including COUNTY's employees, agent invitees, contractors, tenants or licensees), provided such claim, loss, demand or cause of action is the result of the negligence or misconduct of Landowner, or Landowner's employees, agents, tenants or invitees.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

COUNTY

By: _____

(Title: _____)

LANDOWNER

By: _____

(Print Name)_____

By: _____

Co-owner (if applicable)

(Print Name)_____

APPENDIX B
EMERGENCY HOUSING SPACE CONSIDERATIONS
FOR LIVESTOCK AND POULTRY

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Livestock and Poultry Housing Space Considerations

The following table presents information that can be used to plan the possible housing space requirements for temporarily housing livestock and poultry in the event of a foreign animal disease outbreak. This information is intended to provide guidance to county planners and should be discussed with animal health professionals involved in local response planning and preparedness.

The space allowances presented below are not intended to be used for housing and care of livestock and poultry during non-emergency situations. Specific guidance on normal housing requirements can be obtained from industry organizations, Cooperative Extension and the United States Department of Agriculture.

Housing space requirements are dependant on multiple factors, including, but not limited to, animal age, species involved, climate, manure-handling system and ventilation. The space considerations presented below should be used for planning purposes to determine the approximate space needed by a county and the potential holding capacity of temporary housing areas. In an emergency situation, a county is responsible for housing and caring for animals in a manner that protects their health.

Animal Type	Size	Space Consideration	Reference
Cattle			
Calves	≤ 800 pounds (lbs)	20-35 square feet (ft ²)	Midwest Plan Service (MWPS) #6, Beef Housing and Equipment Handbook
Feeder Cattle	800-1,200 lbs	30-35 ft ²	
Mature Cattle	> 1,200 lbs	40-50 ft ²	
Hogs			
Pre-nursery	12-30 lbs	2-2.5 ft ²	MWPS #8, Swine Housing and Equipment Handbook
Nursery	30-75 lbs	3-4 ft ²	
Grower	75-150 lbs	6 ft ²	
Finisher	151-250 lbs	8 ft ²	
Chickens			
Broilers	< 4.5 lbs	≥ 6.5 lbs/ft ²	National Chicken Council, Animal Welfare Guidelines and Audit Checklist, April 2010
	4.5-5.5 lbs	≥ 7.5 lbs/ft ²	
	> 5.5 lbs	≥ 8.5 lbs/ft ²	
Laying Hens	Per hen	67-86 in ² /cage 1.5 ft ² /floor	United Egg Producers, Animal Husbandry Guidelines for U.S. Egg Laying Flocks, 2010
Other Livestock and Poultry			
Sheep	Per mature animal	20-25 ft ²	University of New Hampshire Cooperative Extension, Housing and Space Guidelines for Livestock, June 2009
Goat		20-25 ft ²	
Horse		70-100 ft ²	
Turkey		6 ft ²	

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APPENDIX C

**TEMPORARY HOUSING AND CARE OF LIVESTOCK AND POULTRY
INITIAL DATA COLLECTION FORM**

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COUNTY LIVESTOCK AND POULTRY TRACKING AND REPORTING INFORMATION FORM

Instructions

When it is necessary to temporarily house and care for livestock or poultry during a foreign animal disease emergency, the following information should be collected and conveyed to the Nebraska Department of Agriculture's Animal and Plant Health Protection (APHP) and the Nebraska Emergency Management Agency (NEMA). To allow response coordination at the state level and to facilitate state support, this information should be submitted as soon as possible to APHP and NEMA. The information should be submitted by facsimile to the following: APHP at (402) 471-6893 and NEMA at (402) 471-7433. If submission by facsimile is not practical, this information can be submitted by telephone to the following: APHP at (402) 471-2351 and NEMA at (402) 471-7421.

In some cases, a truckload of animals may involve individual or groups of animals from multiple points of origin. A point of origin may be a single farm or grow-out facility, or an auction market or sale barn. In these cases, identify groups of animals and provide the requested information for each group of animals. A group can consist of a single animal.

A county should develop an animal group numbering system. This will allow APHP or NEMA to coordinate more efficiently with local emergency management regarding support for specific groups of animals. A group identification number may consist of a prefix code for the location in the county, followed by a number assigned to a particular group. An example could be: CF2 (county fairgrounds, second group unloaded at the fairgrounds). This numbering system should be developed by a county in advance of an emergency and it should provide unique numbers to each group of animals off-loaded and under county care.

Please fill out as much of this information as possible. The information on the point of origin and final destination will be used to determine the final disposition of the animals or a release date.

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Group ID _____

Date the county took charge of the group: _____

Housing location (address and either GPS coordinates in UTM units, or township range and section): _____

Type of animal:

_____ Cattle	_____ Dairy	_____ Hogs	_____ Sheep
_____ Horses	_____ Goats	_____ Buffalo	_____ Pullets
_____ Chicks	_____ Broilers	_____ Turkeys	_____ Exotics
_____ Other livestock:	_____ Other fowl:	_____	

Number of animals: _____

County contact name: _____

County contact phone number: _____

Approximate age of animal(s) or point in production cycle: _____

Lot identification number or tag numbers: _____

Date loaded on truck: _____

Point of origin: State _____ City _____

Name of facility of origin or owner: _____

Address: _____

Contact name at point of origin or owner: _____

Contact at point of origin or owner phone number: _____

Receiver's contact name: _____

Receiver's contact phone number: _____

Hauler's contact name: _____

Hauler's contact phone number: _____

Hauler's truck or tractor identification number: _____

Hauler's trailer identification number: _____

County emergency veterinarian (monitoring the group): _____

County emergency veterinarian's phone number: _____

Name of person filling out form: _____

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APPENDIX D
NEBRASKA COOPERATIVE EXTENSION
COUNTY OFFICES

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**University of Nebraska-Lincoln Extension
County Offices**

<p>Adams 300 N. St. Joseph Ave. Room 103 P.O. Box 30 Hastings, NE 68902-0030 (402) 461-7209 Adams-County@unl.edu</p>	<p>Antelope 501 Main Street, Suite 9B Neligh, NE 68756-1466 (402) 887-5414 Antelope-County@unl.edu</p>	<p>Boone 222 S. 4th Albion, NE 68620-1247 (402) 395-2158 Boone-County@unl.edu</p>
<p>Box Butte 415 Black Hills Ave. Alliance, NE 69301-3243 (308) 762-5616 BoxButte-County@unl.edu</p>	<p>Boyd 401 Thayer St. P.O. Box 108 Butte, NE 68722-0108 (402) 775-2491 Boyd-County@unl.edu</p>	<p>Brown, Keya Paha, Rock 148 West 4th Ainsworth, NE 69210-1696 (402) 387-2213 BKR1@unl.edu</p>
<p>Buffalo 1400 E. 34th St. (Fairgrounds) Kearney, NE 68847-3992 (308) 236-1235 Buffalo-County@unl.edu</p>	<p>Burt 111 North 13th St., Suite 6 Tekamah, NE 68061-1098 (402) 374-2929 Burt-County@unl.edu</p>	<p>Butler 451 North 5th St. David City, NE 68632-1666 (402) 367-7410 Butler-County@unl.edu</p>
<p>Cass 8400 144th St., Suite 100 Weeping Water, NE 68463-1932 (402) 267-2205 Cass-County@unl.edu</p>	<p>Cedar 101 East Centre P.O. Box 368 Hartington, NE 68739-0368 (402) 254-6821 Cedar-County@unl.edu</p>	<p>Central Sandhills Area (Blaine, Grant, Hooker, Thomas) 503 Main St. P.O. Box 148 Thedford, NE 69166-0148 (308) 645-2267 Central-Sandhills@unl.edu</p>
<p>Chase 135 West 5th Street P.O. Box 640 Imperial, NE 69033-0640 (308) 882-4731 Chase-County@unl.edu</p>	<p>Cherry 365 N. Main Street, Suite 3 Valentine, NE 69201-1800 (402) 376-1850 Cherry-County@unl.edu</p>	<p>Cheyenne 920 Jackson Street P.O. Box 356 Sidney, NE 69162-0356 (308) 254-4455 Cheyenne-County@unl.edu</p>
<p>Clay 111 W. Fairfield Clay Center, NE 68933-1499 (402) 762-3644 Clay-County@unl.edu</p>	<p>Colfax P.O. Box 389 Schuyler, NE 68661-0389 (402) 352-3821-26 Colfax-County@unl.edu</p>	<p>Cuming 200 S. Lincoln St. P.O. Box 285 West Point, NE 68788-0285 (402) 372-6006 Cuming-County@unl.edu</p>
<p>Custer 431 S. 10th Ave. Broken Bow, NE 68822-2099 (308) 872-6831 Custer-County@unl.edu</p>	<p>Dakota 1505 Broadway P.O. Box 129 Dakota City, NE 68731-0129 (402) 987-2140 Dakota-County@unl.edu</p>	<p>Dawes 250 Main St., Suite 8 Chadron, NE 69337-0670 (308) 432-3373-74 Dawes-County@unl.edu</p>
<p>Dawson 1002 Plum Creek Parkway P.O. Box 757 Lexington, NE 68850-0757 (308) 324-5501 Dawson-County@unl.edu</p>	<p>Deuel 718 3rd St. P.O. Box 625 Chappell, NE 69129-0625 (308) 874-2705 Deuel-County@unl.edu</p>	<p>Dixon Haskell Agricultural Laboratory 57905 866 Road Concord, NE 68728-2828 (402) 584-2234 Dixon-County@unl.edu</p>

<p>Dodge 1206 W. 23rd St. Fremont, NE 68025-2504 (402) 727-2775 Dodge-County@unl.edu</p>	<p>Douglas/Sarpy 8015 W. Center Road Omaha, NE 68124-3175 (402) 444-7804 Douglas-County@unl.edu</p> <p>South Office 1308 Gold Coast Road Papillion, NE 68046-2898 (402) 444-7804 Sarpy-County@unl.edu</p>	<p>Dundy 112 7th Ave. West Box 317 Benkelman, NE 69021-0317 (308) 423-2021 Dundy-County@unl.edu</p>
<p>Fillmore 972 G St. Geneva, NE 68361-2005 (402) 759-3712 Fillmore-County@unl.edu</p>	<p>Franklin 405 15th Ave. (Courthouse) P.O. Box 266 Franklin, NE 68939-0266 (308) 425-6277 Franklin-County@unl.edu</p>	<p>Frontier 404 E. 7th St., Suite 2 Curtis, NE 69025-9527 (308) 367-4424 Frontier-County@unl.edu</p>
<p>Furnas 912 R St. (Courthouse) P.O. Box 367 Beaver City, NE 68926-0367 (308) 268-3105 Furnas-County@unl.edu</p>	<p>Gage 1115 W. Scott Beatrice, NE 68310-3514 (402) 223-1384 Gage-County@unl.edu</p>	<p>Garden 611 Main St. P.O. Box 487 Oshkosh, NE 69154-0487 (308) 772-3311 Garden-County@unl.edu</p>
<p>Garfield, Loup, Wheeler 250 S. 8th Ave. P.O. Box 638 Burwell, NE 68823-0638 (308) 346-4200 GLW@unl.edu</p>	<p>Gosper 507 Smith Ave. P.O. Box 146 Elwood, NE 68937-0146 (308) 785-2390 Gosper-County@unl.edu</p>	<p>Greeley Corner of O'Neill & Kildare P.O. Box 290 Greeley, NE 68842-0290 (308) 428-2835 kjohnson23@unl.edu</p>
<p>Hall 3180 W. Highway 34 Grand Island, NE 68801-7279 (308) 385-5088 Hall-County@unl.edu</p>	<p>Hamilton 12th & M St. (Courthouse) P.O. Box 308 Aurora, NE 68818-0308 (402) 694-6174 Hamilton-County@unl.edu</p>	<p>Harlan 706 Second St. P.O. Box 258 Alma, NE 68920-0258 (308) 928-2119 Harlan-County@unl.edu</p>
<p>Hayes 502 Troth St. P.O. Box 370 Hayes Center, NE 69032-0370 (308) 286-3312 Hayes-County@unl.edu</p>	<p>Hitchcock 229 E. D St. P.O. Box 248 Trenton, NE 69044-0248 (308) 334-5666 Hitchcock-County@unl.edu</p>	<p>Holt 128 N. 6th Street, Suite 101 O'Neill, NE 68763-1616 (402) 336-2760 Holt-County@unl.edu</p>
<p>Howard 612 Indian St., Suite 1 St. Paul, NE 68873-1642 (308) 754-5422 Howard-County@unl.edu</p>	<p>Jefferson 517 F St. Fairbury, NE 68352-2432 (402) 729-3487 Jefferson-County@unl.edu</p>	<p>Johnson 3rd & Broadway (Courthouse) P.O. Box 779 Tecumseh, NE 68450-0779 (402) 335-3669 Johnson-County@unl.edu</p>
<p>Kearney 424 N. Colorado P.O. Box 31 Minden, NE 68959-0031 (308) 832-0645 Kearney-County@unl.edu</p>	<p>Keith-Arthur 511 N. Spruce, Rm. 203 Ogallala, NE 69153-0450 (308) 284-6051 Keith-County@unl.edu</p>	<p>Kimball-Banner 209 E. 3rd Kimball, NE 69145-1433 (308) 235-3122 Kimball-County@unl.edu Banner-County@unl.edu</p>

Knox 308 Bridge St. P.O. Box 45 Center, NE 68724-0045 (402) 288-5611 Knox-County@unl.edu	Lancaster 444 Cherrycreek Rd., Suite A Lincoln, NE 68528-1507 (402) 441-7180 Lancaster-County@unl.edu	Lincoln/Logan/McPherson 348 W. State Farm Road North Platte, NE 69101 (308) 532-2683 Lincoln-County@unl.edu
Madison 601 E. Benjamin Ave. Suite 105 Norfolk, NE 68701-0813 (402) 370-4040 (800) 217-4310 Madison-County@unl.edu	Merrick 1510 18th St. P.O. Box 27 Central City, NE 68826-0027 (308) 946-3843 Merrick-County@unl.edu	Morrill 514 Main Street Bridgeport, NE 69336-0490 (308) 262-1022 Morrill-County@unl.edu
Nance 209 Esther St. (Courthouse) P.O. Box 130 Fullerton, NE 68638-0130 (308) 536-2691 Nance-County@unl.edu	Nemaha 1824 N St., Suite 102 Auburn, NE 68305-2395 (402) 274-4755/4756 Nemaha-County@unl.edu	Nuckolls 150 S. Main P.O. Box 386 Nelson, NE 68961-0386 (402) 225-2381 Nuckolls-County@unl.edu
Otoe P.O. Box 160 180 Chestnut Syracuse, NE 68446-0160 (402) 269-2301 Otoe-County@unl.edu	Pawnee 625 6th St. P.O. Box 391 Pawnee City, NE 68420-0391 (402) 852-2970 Pawnee-County@unl.edu	Perkins 200 Lincoln Ave. P.O. Box 99 Grant, NE 69140-0099 (308) 352-4340 Perkins-County@unl.edu
Phelps 1308 Second St. Holdrege, NE 68949-2803 (308) 995-4222 Phelps-County@unl.edu	Pierce 111 W. Court St., Room 13 Pierce, NE 68767-1224 (402) 329-4821 Pierce-County@unl.edu	Platte 2610 14th Street, Suite 15, Box F Columbus, NE 68601-4992 (402) 563-4901 Platte-County@unl.edu
Polk 400 Hawkeye P.O. Box 215 Osceola, NE 68651-0215 (402) 747-2321 Polk-County@unl.edu	Red Willow 1400 West 5th Street, Suite 2 McCook, NE 69001-2593 (308) 345-3390 Red-Willow-County@unl.edu	Richardson 1700 Stone (Courthouse) Falls City, NE 68355-2033 (402) 245-4324 Richardson-County@unl.edu
Saline 306 W. Third P.O. Box 978 Wilber, NE 68465-0978 (402) 821-2151 Saline-County@unl.edu	Saunders 1071 County Road G, Room B Ithaca, NE 68033-2234 (402) 624-8030 Saunders-County@unl.edu	Scotts Bluff 4502 Avenue I Scottsbluff, NE 69361-4939 (308) 632-1480 Scotts-bluff-County@unl.edu
Seward 216 South 9th Street Seward, NE 68434-2424 (402) 643-2981 Seward-County@unl.edu	Sheridan 105 Loofborrow Street P.O. Box 329 Rushville, NE 69360-0329 (308) 327-2312 Sheridan-County@unl.edu	Sherman 630 O Street (Courthouse) P.O. Box 459 Loup City, NE 68853-1557 (308) 745-1518 Sherman-County@unl.edu
Sioux 325 Main Street P.O. Box 277 Harrison, NE 69346-0277 (308) 668-2428 Sioux-County@unl.edu	Stanton 302 6th Street Stanton, NE 68779 (402) 439-2231 Stanton-County@unl.edu	Thayer 225 North 4th Room 104 Hebron, NE 68370-1598 (402) 768-7212 Thayer-County@unl.edu

Thurston 415 Main Street P.O. Box 665 Pender, NE 68047 (402) 385-6041 Thurston-County@unl.edu	Valley 801 S Street, Suite 1 (Fairgrounds) Ord, NE 68862-1867 (308) 728-5071 Valley-County@unl.edu	Washington 597 Grant Street, Suite 200 Blair, NE 68008 (402) 426-9455 Washington-County@unl.edu
Wayne 510 N Pearl St Ste C Wayne, NE 68787-1939 (402) 375-3310 Wayne-County@unl.edu	Webster 621 North Cedar Red Cloud, NE 68970-2397 (402) 746-3417 Webster-County@unl.edu	York 2345 Nebraska Avenue York, NE 68467-1104 (402) 362-5508 York-County@unl.edu

APPENDIX E

GENERAL PPE GUIDANCE

(Adapted from NAHEMS, 2011)

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PPE for FADs that have no Human Health Risk Component

Recommended PPE for routine field investigations may include coveralls, a cooling vest, an apron, gloves, boots, eye protection, respiratory protection, and head and hearing protection. If disposable equipment is used, it should not be re-used.

Coveralls — Acceptable coveralls for use in a routine field call include: (a) clean, washable, reusable, long-sleeved, one-piece cloth coverall suits or (b) clean, disposable, long-sleeved one-piece Tyvek® coverall suits.

Either type of coverall may be worn over street clothes; however, warm, humid weather conditions may result in some discomfort for the worker wearing long-sleeved coveralls, especially over street clothes. Either white or colored Tyvek® suits are acceptable.

Cooling Vest — If the weather is warm, a cooling vest may be used under the coveralls. Cold weather operations may require additional insulated underclothing.

Gloves — Appropriate gloves should be considered standard PPE for routine FAD calls. Standard disposable latex gloves are recommended for clinical use in the field. Gloves made from other materials may be substituted for latex gloves under certain conditions. Such materials include nitrile, butyl, polyvinyl chloride (PVC), and neoprene, which are available commercially.

Cut-resistant gloves made of materials such as steel mesh, Kevlar®, and Surgipath®, are essential PPE for personnel who are conducting necropsies and collecting and cutting tissue specimens in the field. These gloves should be worn as essential PPE on both hands over the latex or other waterproof gloves and should be disposed of or thoroughly cleaned and disinfected before being removed from the necropsy area.

Boots — For field use, high pull-on boots worn over stocking feet are far preferable to overshoes or overboots, neither of which is recommended. To permit thorough cleaning and decontamination, the boots should be of rubber or plastic waterproof material with shallow treads to permit thorough cleaning. Safety boots with flexible steel toes and midsoles, which provide extra protection from puncture wounds and events involving crushing, are especially recommended for wear in the field.

Eye Protection — Acceptable eye protection in the form of unbreakable, splash-proof goggles or glasses should be worn during a response. A full-face shield may be substituted.

Respiratory Protection — In the instance respiratory protection is needed, respiratory protection might be provided by Incident Command to assist workers in dusty environments or relative to preference or comfort issues particular to an individual responder.

Specific types of respiratory protection should be determined by the incident Safety Officer and may range from a dust mask to a powered air-purifying respirator. The use of respiratory protection above a dust mask may require medical monitoring of the wearer. The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor requires that users of filtering respirators such as the N-95® be enrolled in a respiratory protection program that includes pulmonary function testing, medical clearance, respirator fitting and testing, initial and periodic respiratory protection care-and-use training, and medical surveillance. In addition, the user must be clean-shaven.

Head and Hearing Protection — Under certain circumstances, a hard hat and hearing protection may be recommended.

PPE in Settings with Significant Human and Community Health Risk

Examples of FADs with significant human and community health risk include the hanta, hendra, and nipah viruses; Q fever; Rift Valley fever; and Highly Pathogenic Avian Influenza (H5N1). Below is a brief overview of the types of PPE suggested for use in situations on premises on which diseases such as these have been diagnosed.

Recommended PPE for visits to settings with significant human and community health risk include coveralls, a cooling vest (optional), gloves, boots, respiratory and eye protection. If disposable equipment is used, it should not be re-used.

Coveralls — A clean, disposable, long-sleeved, one-piece Tyvek® coverall suit is recommended for this setting. The visitor should remove all street clothing (both outerwear and underwear, including socks) before putting on the coveralls. If the weather is warm, a cooling vest may be used under the coveralls. Cold weather operations may require use of additional insulated underclothing that is dedicated to use for this purpose. Dedicated socks also should be donned. To ensure complete, thorough personal decontamination, all garments – including coveralls, cooling vest or insulated underwear, scrubs and socks – should be removed at the end of the investigation or visit.

Gloves—Double sets of gloves are essential PPE in situations involving disease agents in this risk category.

Double-Gloving — The first pair of gloves that is donned may be nitrile disposable gloves, followed by a pair of thicker nitrile or other rubber gloves. If wearers are working in a potential cut-hazard environment, cut-resistant gloves (e.g., steel mesh, Kevlar® or Surgipath®) may be used as well. If the outer nitrile or rubber glove could be damaged by abrasion, a cotton or leather disposable outer glove should be used.

Taping Cuffs — To prevent the responder's exposure to the disease agent of concern, a tight seal must be made between the cuffs of the coveralls and the cuffs of the gloves. The cuffs of the coverall sleeves should be placed over the cuffs of outer gloves and

taped in place with duct or similar type tape. On both sleeves, the tape should be placed so that it extends equal distances over the coverall cuff and the cuff of the glove. One to three turns then should be made with the tape around the wrists to secure the coverall sleeves to the glove cuffs. One turn is sufficient with wide tape (3-4 in or 7.6-10 cm in width), whereas two or even three turns are required with narrow tape (1-2 inch or 2.5-5 cm in width).

Boots — Pull-on boots worn over stocking feet are recommended in this risk category. The use of overshoes or overboots is not recommended. To permit thorough cleaning and decontamination, the boots should be of rubber or plastic waterproof material with shallow treads to permit thorough cleaning. Safety boots with flexible steel toes and midsoles, which provide extra protection from puncture wounds and events involving crushing, are especially recommended for wear in the field.

Respiratory and Eye Protection — For this risk category, the use of a protective hood with a face shield in conjunction with a battery powered air-purifying respirator (PAPR) may be required.

Desirable attributes for a hood with a face shield include wearer comfort, resistance to shifting during strenuous use, ease of cleaning and disinfection, a reasonable initial cost and shelf life, and commercial availability. Several hood configurations and styles are compatible with a PAPR. Use of a PAPR has many advantages, including:

- Comfort,
- Greater encapsulation from the outside environment than other respirators,
- Some limited body cooling effect during hot and/or humid weather, and
- Wearability by individuals with beards or mustaches.

The disadvantages of a PAPR include:

- Initial cost of purchase,
- The need for maintenance (e.g., battery recharging and filter replacement),
- Potential difficulty in disinfecting the blower units completely,
- Difficulty of user in communicating verbally with others, and
- Possible adverse perception by the farming public of a FADD wearing a PAPR.

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APPENDIX F

**EXAMPLE LIVESTOCK AND POULTRY MONITORING
DATA COLLECTION SHEET**

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