RECOMMENDATIONS FOR PROFESSIONALS VISITING LIVESTOCK OPERATIONS

OBJECTIVE: Provide procedures to prevent exposure of livestock and poultry to infectious agents at facilities when inspected or visited by state, federal, local, or private agency personnel.

BACKGROUND: Infectious agents may be spread to new hosts by contact through fomites, inanimate objects that serve to carry infections from one animal to another. Clothing, footwear, feed, bedding, and equipment, including automobile tires, can harbor disease causing organisms, including:

Bacteria:	*Salmonella* spp.*	*Actinobacillus* spp.
	Streptococcus spp.*	*Klebsiella* spp.
	Enterobacter spp.	*Escherichia coli**
	Clostridium spp.	*Mycobacterium* spp.*
	Staphylococcus spp.	*Corynebacterium* spp.*
	Campylobacter spp.*	*Chlamydia psittaci**
Viruses:	BVD*	Herpesvirus*
	Influenza*	Rotavirus*
	Pseudorabies*	Paramyxovirus*
	Foot and Mouth Disease*Ψ	Classical swine fever*Ψ
	African swine fever*Ψ	

**indicates causes of disease outbreaks potentially involving large numbers of animals and/or transmission to humans*

Y *indicates foreign animal disease*

Vehicle:

Drive only on prepared surfaces. Avoid driving or parking on dirt. Car windows are to remain closed to minimize flying insects from getting inside vehicle.

I. Protective clothing:

Clean cloth or disposable Tyvek coveralls should be worn at each site. Cleaned and disinfected rubber boots or disposable boots are also recommended. These items should be changed or cleaned and disinfected between sites. If more than one species or group is housed on a site, each area should be treated as a different site.

II. Equipment:

All equipment must be thoroughly cleaned and disinfected upon arrival and prior to leaving a site.

IV. Order of inspection:

The owner or manager of the site should be consulted to determine the order for the site visitation. The areas with the lowest risk of exposure to infectious agents should be visited first.

III. Cleaning:

Removal of organic debris (urine, feces) and washing of surfaces which have been exposed to organic debris must precede disinfection to be effective. Cleaning is the most labor intensive part of the cleaning and disinfection process.

- Failure to remove the organic material by effectively cleaning an object may result in the survival of infectious agents. Efficient cleaning removes almost 99% of the bacteria from a contaminated object. Disinfectants should be applied only *after* removal of contaminated organic matter. Washed surfaces should be allowed to dry before applying disinfectants. Disinfectants should be allowed to dry on treated surfaces and *not* be washed off.

- Detergents should be used on non-disposable boots and equipment to facilitate the removal of organic debris from these objects. Tools used to clean these items must also be cleaned and then disinfected prior to additional use.

Simple Green is a multi-purpose, environmentally friendly detergent that is recommended for cleaning. This product works effectively with cold water.

IV. Disinfecting

Detergents must be rinsed off thoroughly prior to the application of disinfectants to avoid any potentially hazardous chemical reactions.

The use of disinfectants which have the broadest spectrum of activity, including efficacy on porous surfaces with organic deris and contact safety, is ideal. **No single disinfectant will satisfy all considerations.** Disinfectant properties should be evaluated in regard to the intended areas of use:

- **Potassium peroxymonosulfate**
  Example: Virkon-S® (Farnum Livestock Products)

  A balanced, stabilized blend of peroxygen compounds that provides broad spectrum disinfectant properties effective against most viruses, bacteria and fungi. Is approved as a disinfectant by EPA and can be used to clean and disinfect.

  Effective against FMDv

- **Hypochlorites (bleach)**
  Example: Chlorox® (5.25% sodium hypochlorite, The Chlorox Company)

  Sodium hypochlorite is effective against most bacteria, viruses (influenza, herpes, and adenovirus; *not rotavirus*), and fungi at a 1:32 dilution (**only in the absence of organic material**). Disinfectant properties of sodium hypochlorite are inactivated by organic material and diminished by alkaline materials (lime) and moisture. Contact with skin is irritating.

  Commonly used on equipment and cleaned solid surfaces.
  Effective against FMDv at a 3% dilution

- **Alkalies (lime)**

  Hydroxides of sodium and calcium are effective against many bacteria when application changes the local environment to a pH greater than 9. Contact with skin is caustic. **Not recommended for use as a disinfectant due to the limited spectrum of efficacy and potential for contact irritation.**

  Effective against FMDv

- **Phenols and related compounds (cresols**)
  Examples: 1 Stroke Environ® (Calgon Vestal), Tek-Trol® (Bio-Tek Idustries, Inc.)

  Phenolic disinfectants are bactericidal, fungicidal and virucidal (including Rotavirus) at 1 – 2% concentrations and are **not** inactivated by organic debris. Disinfectant properties are enhanced by warm temperatures, and diminished by cold temperatures and moisture. Contact with skin is corrosive and the use of goggles and rubber gloves is recommended for handlers.

  Commonly used on surfaces of buildings.
  Ineffective against FMDv

- **Quaternary ammonium compunds**
  Examples: Roccal-D (Winthrop), Omega (Airkem)

  Quaternary ammonium chloride compounds are effective against most bacteria, some fungi, but **are ineffective against all viruses.** Disinfectant properties are diminished by organic, porous or fibrous materials as well as soaps, proteins, fatty acids and phosphates. Areas of use include nonporous surfaces free of organic debris when chlorine bleach or other similar disinfectant are unavailable.

  Ineffective against FMDv

- **Acetic acid**

  Vinegar is a 4% solution of acetic acid .

  Effective against FMDv