LIVESTOCK IDENTIFICATION SERVICES LTD.

PROCEDURE #153	**Version: 2009-10-09**

SUBJECT: LIS ON-FARM BIOSECURITY PROCEDURE

CONTENT OF PROCEDURE

This Procedure is intended to reduce the risk of introducing diseases to a farm, facility or region where they do not already exist. *Intensive livestock operations* (feedlots, auction markets and assembly stations) are more susceptible to disease and therefore will often demand stricter biosecurity protocols. Inspectors must ensure they meet or exceed the biosecurity requirements of the operation and must at all times respect the biosecurity protocols established by the individual livestock operation.

LIS staff must follow the minimum biosecurity procedures outlined below to ensure all reasonable precautions are taken to prevent the spread of disease.

Attending all livestock operations:

1. Wear clean clothing and (washable i.e. rubber boots or rubber slip on) footwear
2. Ensure all equipment is clean and properly maintained
3. Wash vehicle regularly and ensure the tires, mud flaps, wheel wells and undercarriage are free of organic material
4. LIS staff are not permitted to bring dogs (or other pets) to the workplace or any off-site inspection site
5. Keep the inside of the vehicle clean and remove soiled footwear and clothing before entering the vehicle, store footwear and clothing separately and properly clean before reusing
6. Notify the producer of your arrival
7. If possible, park vehicle in a designated parking area away from heavy traffic areas in a clean, dry area with no obvious manure accumulation
8. Always adhere to the operation's biosecurity protocol whether you agree with it or not. If the LIS biosecurity protocol is more stringent than the producer's, implement the LIS protocol
9. **CRITICAL – Clean visible organic matter (manure/mud) from boots with dry wire brush**
10. Clean and wash boots before leaving the livestock operation
    a. Follow directions on the container of sanitizer to ensure that the proper concentrations are obtained
    b. Place the properly diluted sanitizer solution in a bucket large enough to place the boots in and use the **wet** brush to clean the boots. If water is not always available on site bring an appropriate size sealable water jug.
    c. After sanitizing your boots, clean the **dry** wire brush in the used sanitizing solution and dispose of the sanitizing solution in a safe manner (i.e. gravel driveway - do not dispose of it where animals can have access to it)
11. Place cleaned boots into a designated "clean" area (i.e. clean tub) of the vehicle immediately after they are washed
12. Wash hands thoroughly with soap and/or disinfectant after each farm visit

Boot Sanitizing
To avoid mechanical transfer of microorganisms by personnel (i.e. manure on boots moved from one operation to the next), boot sanitizing must be a standard practice and is extremely important. However, there are commonly neglected protocols to boot sanitizing that are overlooked including:

- Inadequate removal of organic debris prior to stepping into the disinfectant solution
- Inappropriate contact time allowed for the disinfectant
- Infrequent change of disinfection solution

The most overlooked and important step is removal of organic matter from boots prior to stepping into a boot bath disinfectant.

Boot bath solutions should also be kept from freezing and protected from rain to avoid over-dilution. The use of rubber boots will better allow compliance with the necessary contact and soak times.

Note: Disinfectants supplies and equipment are available through Head Office

Target Microorganisms
The LIS Bio-Security protocol is designed to mitigate transfer of the following microorganisms:

- Gram-positive bacteria (i.e. Staphylococcus and streptococcus)
- Gram-negative bacteria (i.e. Brucellosis, Salmonellosis and Escherichia coli O157:H7)
- Viruses (i.e. FMD, IBR, BVD, Influenza and Malignant Head Catarrh)
- Acid-fast bacteria (i.e. Tuberculosis and Johne's Disease)
- Bacterial Spores (i.e. Anthrax and Closridial diseases [Blackleg and Malignant Edema])

Reportable Disease Outbreak

In the event of a reportable disease outbreak you are to immediately follow the directives of the ***"Animal Health Emergency Response Plan"*** provided in your field binder.

The CFIA, Animal Health program, in fulfilling its responsibilities under the *Health of Animals Act* and the federal *Emergency Preparedness Act*, has produced plans and procedures for eradication of an Foreign Animal Disease (FAD) outbreak. The responsibility for implementing those plans in Alberta is vested in the Executive Director, Western Area for the CFIA. The CFIA is responsible for FAD prevention in Canada through border control. The role of the Province of Alberta is to encourage livestock disease prevention through surveillance, dissemination of disease information to veterinarians and producers, in addition to encouraging the implementation of farm bio-security practices. Response to a suspected or confirmed outbreak will result in two levels of joint Federal-Provincial activity. These will be followed by a joint effort recovery period. Strong management ability is required to handle outbreaks of unexpected size and severity.

SIGNED: David Moss, COO

DATED: October 9, 2009

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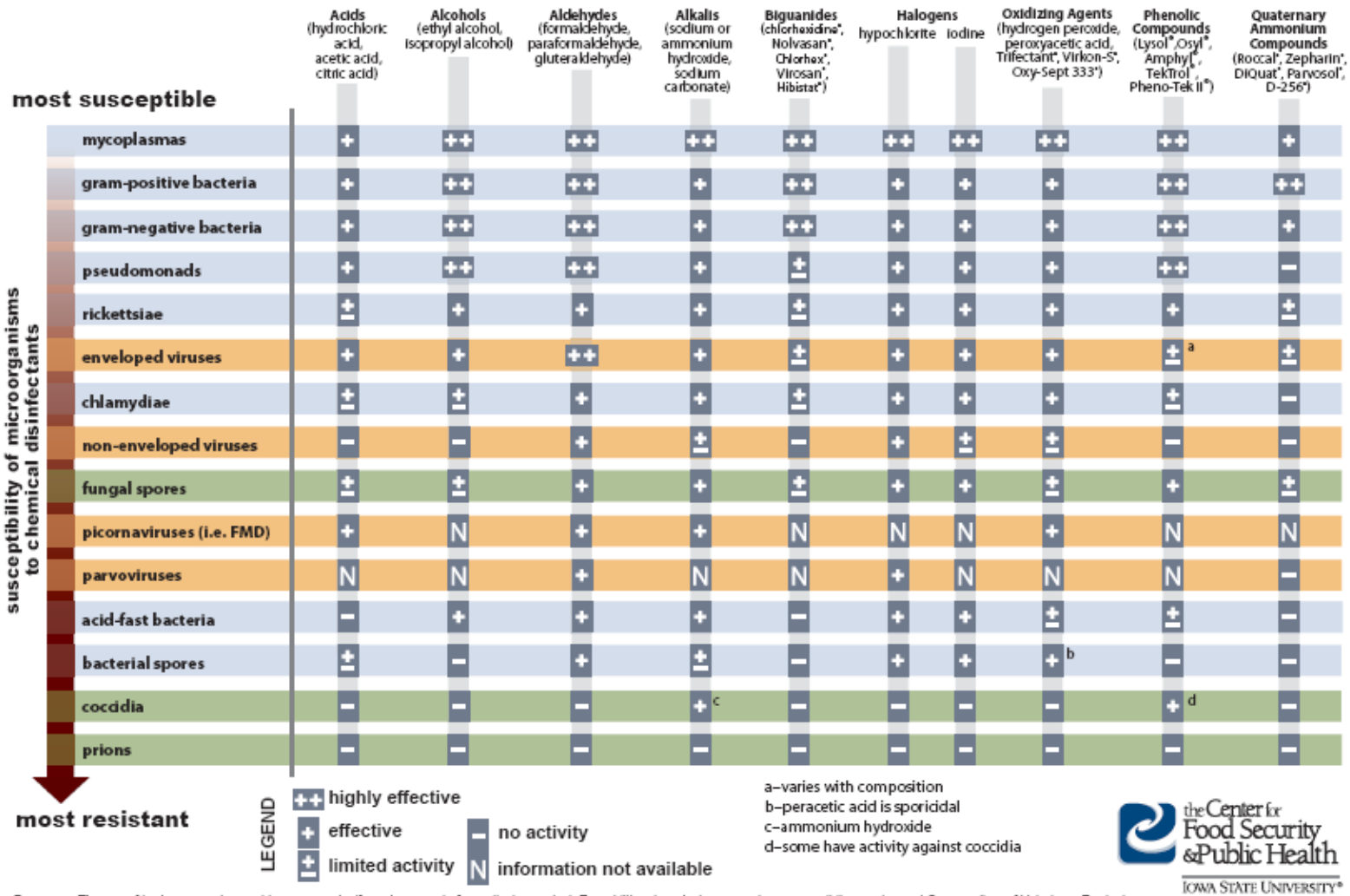
The Antimicrobial Spectrum of Disinfectants

Chemical Disinfectants

Note: Removal of organic material must always precede the use of any disinfectant.



Disclaimer: The use of trade names does not in any way signify endorsement of a particular product. For additional product names, please consult the most recent Compendium of Veterinary Products.

Adapted from: Linton AH, Hugo WB, Russel AD. Disinfection in Veterinary and Farm Practice. 1987. Blackwell Scientific Publications; Oxford, England; Quinn PJ, Markey BK. Disinfection and Disease Prevention in Veterinary Medicine, In: Block SS, ed., Disinfection, Sterilization and Preservation. 5th edition. 2001. Lippincott, Williams and Wilkins: Philadelphia.

the Center for Food Security & Public Health
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ASOD_Z1207

Characteristics of Selected Disinfectants

For More Information, see the 'Disinfection 101' document at www.cfsph.iastate.edu

Disinfectant Category	Alcohols	Aldehydes	Biguanides	Halogens: Hypochlorites	Halogens: Iodine Compounds	Oxidizing Agents	Phenols	Quaternary Ammonium Compounds (QAC)
Sample Trade Names	Ethyl alcohol Isopropyl alcohol	Formaldehyde Glutaraldehyde	Chlorhexidine Nolvasan® Virosan®	Bleach	Betadyne® Providone®	Hydrogen peroxide Peracetic acid Virkon S® Oxy-Sept 333®	One-Stroke Environ® Pheno-Tek II® Tek-Trol®	Roccal® DiQuat® D-256®
Mechanism of Action	•Precipitates proteins •Denatures lipids	•Denatures proteins •Alkylates nucleic acids	•Alters membrane permeability	•Denatures proteins	•Denatures proteins	•Denature proteins and lipids	• Denatures proteins • Alters cell wall permeability	• Denatures proteins • Binds phospholipids of cell membrane
Advantages	•Fast acting •Leaves no residue	•Broad spectrum	•Broad spectrum	•Broad spectrum •Short contact time •Inexpensive	•Stable in storage •Relatively safe	•Broad spectrum	• Good efficacy with organic material • Non-corrosive • Stable in storage	• Stable in storage • Non-irritating to skin • Effective at high temperatures and high pH (9-10)
Disadvantages	•Rapid evaporation •Flammable	•Carcinogenic •Mucous membranes and tissue irritation •Only use in well ventilated areas	•Only functions in limited pH range (5–7) •Toxic to fish (environmental concern)	•Inactivated by sunlight •Requires frequent application •Corrodes metals •Mucous membrane and tissue irritation	•Inactivated by QACs •Requires frequent application •Corrosive •Stains clothes and treated surfaces	•Damaging to some metals	• Can cause skin and eye irritation	
Precautions	Flammable	Carcinogenic		Never mix with acids; toxic chlorine gas will be released			May be toxic to animals, especially cats and pigs	
Vegetative Bacteria	Effective	Effective	Effective	Effective	Effective	Effective	Effective	YES—Gram Positive Limited—Gram Negative
Mycobacteria	Effective	Effective	Variable	Effective	Limited	Effective	Variable	Variable
Enveloped Viruses	Effective	Effective	Limited	Effective	Effective	Effective	Effective	Variable
Non-enveloped Viruses	Variable	Effective	Limited	Effective	Limited	Effective	Variable	Not Effective
Spores	Not Effective	Effective	Not Effective	Variable	Limited	Variable	Not Effective	Not Effective
Fungi	Effective	Effective	Limited	Effective	Effective	Variable	Variable	Variable
Efficacy with Organic Matter	Reduced	Reduced	?	Rapidly reduced	Rapidly reduced	Variable	Effective	Inactivated
Efficacy with Hard Water	?	Reduced	?	Effective	?	?	Effective	Inactivated
Efficacy with Soap/ Detergents	?	Reduced	Inactivated	Inactivated	Effective	?	Effective	Inactivated

? Information not found

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