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PRV Awareness

Pork Checkoff at Work.SM

FACT SHEET

Transport Biosecurity to Prevent PRV

Introduction

Transportation of breeding animals, slaughter pigs or feeder pigs is one high-risk activity for potential introduction of PRV into a swine herd. Transportation procedures should be carefully planned, including placement of loading and holding areas, cleaning and disinfection of loading and holding areas, and cleaning and disinfection of transport vehicles. Truck drivers and personnel who assist in loading pigs must be trained in biosecurity principles. Truck routes must be planned so as to minimize the potential for contacting infected pigs during transport. Trucks transporting breeding stock or feeder pigs should not stop at truck stops, gas stations or places where livestock trucks are likely to congregate.

Loading and Unloading Procedure

Load-out areas should be placed at a perimeter area or at a building removed from the main animal housing areas on the farm. A holding area should be provided so that pigs cannot turn and go back down hallways or into buildings. The load-out and holding area should be covered and bird-proofed. Load-outs should be designed for one-way pigflow such that pigs cannot go on and off trucks or re-enter the "clean" side after having been on the truck. Transport personnel should put on clean boots and coveralls before assisting with loading or unloading. Transport personnel should assist with loading while remaining on the "dirty" side and farm personnel should remain on the farm or "clean" side. Load-outs and holding areas should be cleaned and disinfected after each use. Load-outs and holding areas must be designed so that water and waste material from the cleaning process cannot drain back into the farm.

Cleaning and Disinfection Procedure

TRANSPORTATION PROCEDUCES SHOULD BE CAREFULLY PLANNED TO PREVENT PRV

Proper cleaning and disinfection of transportation vehicles and equipment is one of the key methods in preventing the introduction of PRV to a farm. The truck wash procedure will benefit greatly from the availability of an enclosed, well-lit, heated facility. According to federal regulations all wastewater must be collected into an approved holding facility. Bedding or shavings must be held until they can be disposed of properly or applied to agricultural land. The floor of the facility should be sloped. A minimum of 2% to 3% slope is recommended for wastewater removal from the trailer. A high-pressure hot water washer that can supply 2,000 psi with 4 gallons of water per minute is needed. Soap and disinfectant must be metered accurately in order to do an efficient, thorough job. Cleaning compounds like soap or detergents are surface-active chemicals that can modify the solubility of water. Use of a soap or detergent is an important first step in the cleaning process. All organic material must be removed in order for disinfection to be effective.

Trucks, trailers and the load-out area should be cleaned and disinfected using the following steps:

1. Bedding and large debris should be scraped out before the wash procedure is started. Trailers should be scraped out before they enter the wash building. Soaking prior to washing will reduce wash time and increase efficacy of the wash procedure.
2. Soap should be used initially to loosen debris and decrease overall wash time. It is normally applied at low pressure. Washing of the load-out area should include the floor and the walls. For trailers, apply soap and water to the outside first. Then move inside to the front of the top deck and start soap application at the junction of the floor and the side. Work up the sides from the bottom to top to reduce streaking and give more surface contact time. Soak the roof and floor while working to the back of the trailer. Soaking the entire trailer will give plenty of time to loosen debris. Don't allow the soap to dry or it will be harder to rinse.
3. After soap has been applied to the entire trailer move back outside and start rinsing and cleaning the trailer from the top down. After rinsing the trailer, soap and wash the cab to give additional soaking time inside the trailer.
4. Rinse and clean each deck from front to back and ceiling down starting with the top deck. Pay special attention when washing to spray the flooring support members on the ceiling of the bottom deck in a multi-deck trailer, behind all the gates, in all the

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corners, and the inside of the roll-up door. Unloading ramps should also be washed. Load-outs on the farm can be washed using the same principles as described for trucks.

5. During the winter it is essential to wash all the winter panels as well as the storage box after every trip. Any time of year wash and disinfect the cutting boards, paddles, boots and coveralls after every load.
6. After the trailer or load-out area has been rinsed thoroughly, apply disinfectant at the appropriate dilution rate. Start on the inside of the trailer and finish on the outside. Disinfectant should be applied at low pressure because many of the metering devices will not dilute properly on high pressure.
7. Clean out the inside of the cab, wash and disinfect floor mats.
8. After disinfection, park the truck on a slope so all the remaining water can drain out. During winter leave the truck in the washout bay, or park it in a protected area to ensure no pooled frozen water. Trailers and load-outs should be dry before their next use. Ideally, trailers should sit overnight before being used for the next load.

In all cleaning procedures, the susceptibility of PRV and other organisms to drying and contact with sunlight should be taken advantage of as much as possible. Many studies have documented this phenomenon and the cost is negligible except for the time involved.

Selection of Detergents and Disinfectants

Cleaning compounds should have the following properties: wetting or penetrating, easily rinsed, emulsifies or degreases (breaks up fats and oils into smaller particles), foaming to increase the contact time, sequestering to remove or inactivate water hardness, and water conditioning to soften the water by sequestering mineral ions. Alkyl detergents meet most of these requirements. Most of the common disinfectants are effective in killing viral and bacterial organisms, given that proper cleaning has occurred, that the environmental temperature is correct (warm or hot) and that adequate disinfectant contact time is allowed. The major disinfectant categories are the chlorines, the iodines, the phenolics and the quarternary ammonia compounds. The chlorines and the iodines are the most effective against enveloped viruses including PRV.

Table 1. Common disinfectants, their characteristics and uses.

Active Compound	Uses	Range of Effectiveness	Disadvantages	Common Brands and Names
Chlorhexidine	Equipment Premises Footbaths	Some bacteria and viruses, ineffective against parvovirus, Pseudomonas	Reduced activity against certain organisms	Nolvasan®
Chlorine Hypochiorites Chloramines	Cleaned Equipment	Bacteria and fungi, limited effect on bacterial spores and viruses	Inactivated by organic material, may be irritating	Chloramine-T®, Chlorox®, Halazone®
Cresols Phenols	Equipment Premises Footbaths	Variety of bacteria, limited effect on fungi and viruses, poor against bacterial spores	Strong odor with coal or wood tar distillates	Cresl-400®, Environ®, Laro®, Lysol®
Iodophors	Cleaned Equipment	Bacteria and fungi, limited effect on bacterial spores and viruses	Inactivated by organic material	Betadine®, Iofec®, Iosdyn®. Losan®
Quaternary Ammonium Compounds	Cleaned Equipment	Variety of bacteria, limited effect on bacterial spores, fungi and viruses	Inactivated by organic material, neutralized by soaps	Germex®, Zephiran®, Hi-Lethol®

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NATIONAL PORK PRODUCERS COUNCIL
P.O. BOX 10383 • DES MOINES, IA 50306
515 223 2600 • FAX 515 223 2646
pork@nppc.org

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