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STANDARD GUIDELINES FOR THE OPERATION OF MINK FARMS IN THE UNITED STATES

2019 Edition

Book 3:

- **Biosecurity Protocols for
Mink Farms in the United
States**



PREFACE

The essential ability for a mink farmer to control the environment in and around the farm should be one of the highest priorities to the farm. A well thought out and comprehensive biosecurity plan will enable the farmer to meet this goal.

These guidelines are **recommendations** that will reduce the risk of disease and contamination on your farm. Every effort should be used to incorporate these principles into your farm management.

Biosecurity is defined as a group of management practices designed to minimize or prevent the introduction of infectious agents onto the farm or into the environment. The aim of the biosecurity protocols recommended here is to reduce the farm's exposure to disease and to contain and control exposure should a disease outbreak occur.

Due to industry characteristics, mink farms have been expanding in size and in many cases there are multiple farms in close proximity to each other. This high density of animals increases the chance of disease transmission. Small farms are at just as much risk for disease as large farms; biosecurity concerns are everyone's concern.

By looking at similar agricultural operations, such as the swine and poultry industries, we can see how they have evolved very stringent biosecurity protocols that allow them to prosper.

For biosecurity protocols to work, the farmer must first believe that they are essential to the existence of the farm. Secondly, the farmer must be willing to put forth the considerable effort and finances needed to ensure all involved will follow the protocols.

The protocols are divided into four major areas. The first is the physical farm itself. The second is the deliveries that are made to the farm. The third is the employees of the farm. The final area is the visitors to the farm.

SECTION 1: THE FARM

The biosecurity procedures for the farm are the most involved and extensive of the four main areas. The objective is to have complete control of the farm environment. This means controlling the ability of wildlife and people from entering the farm, containing the original livestock to the farm and managing what the animals on the farm are exposed to.

The most effective way of achieving this control is by having a well designed and managed perimeter fence and a disease monitoring program.



The three main requirements of the perimeter fence are to keep wildlife from entering the farm, to keep the mink from leaving the farm, and to limit the entrance of people to very specific entrances. The ability of the fence to be a barrier to wild- life cannot be overstated. Many disease outbreaks have been shown to have been transmitted by wildlife (raccoons, skunks, rodents, birds, feral cats, etc.) that have entered the farm through a non-existing or faulty functioning perimeter fence. The fence should have the following characteristics:

- Mesh. This should be a maximum of 1 1/2 inches square.
- Height. At least 6 feet above the ground.

A minimum number of lockable gates for equipment and personnel. All gates should have signage stating that the farm is a bio-secure area, that no trespass is allowed, and directions to the authorized entrance and/or a phone number to call. In most cases a building is incorporated into the perimeter fence. The entrance to the building is the best area for the authorized personnel entrance. If possible, have this entrance open into a room that can act as a buffer area. This room should contain an area for visitors to put on dedicated coveralls and boots, and to wash their hands. A footbath should be positioned at the exit of the area going into the more secure feed and shed areas.

Electrified wire. There should be three wires, one on top of the fence and one on either side of the fence, six inches down from the top; the outside wire should extend out four inches from the fence and the inside wire should extend out two inches from the fence.

The wire of the fence should be buried at least 12 inches into the ground. For existing fences that are not buried, a two-foot-wide piece of landscape cloth around the outside of the fence and covered with three inches of gravel will discourage wildlife from digging under the fence.

SECTION 2: DISEASE CONTROL PROGRAM

You cannot have infection without contamination, and overwhelming contamination will always cause infection. This means that by controlling the level of pathogens (contamination) you can reduce the level of disease. The old adage about keeping a farm clean and dry to prevent disease is true. Routine sanitation of all equipment that comes in contact with the mink, especially the feed handling systems, will dramatically help to reduce contamination levels. Again, observing other industries shows that sanitation has become very prominent in their biosecurity programs.

Fly, rodent and bird control measures must also be addressed. These pests can be major conveyors of disease on a farm. Cats can be helpful in controlling rodents but they also can carry disease. Dogs and cats must be monitored, controlled and vaccinated routinely. A quality vaccination program is essential in controlling specific diseases. Be careful in acquiring, storing and administering the vaccines. Always follow label directions! Even the best vaccination programs may only protect 90% of the animals, so you need to have a complete disease control program. Due to the need for individual handling of the mink (breeding, vaccinating, AD testing, separating) efforts should be made to reduce disease



transmission. During times when the temperature is above freezing the use of transfer cages that can be dipped in disinfectant, between mink, instead of hand carrying the mink can help to reduce exposure. Using individual needles for vaccinating and using disinfectant soaked gloves when handling the mink are also proven techniques to reduce disease transmission.

Exposure to pathogens via feed and water are common. Obtaining high quality, fresh feed and feed components needs to be a high priority. They must be stored and handled properly to maintain their quality. Doing plate counts on feed components and complete feed is a good way to understand and monitor levels of contamination. Water sources should be monitored regularly. Wells should be cultured and checked for contaminants at least twice a year or after anytime work is done to the water system. The watering system should be a closed system. This means the water should not be exposed to the open environment and it should be delivered directly to the individual cages. Re-circulating water systems are becoming popular and have many advantages. A major concern with these systems is that they can become contaminated and expose all the mink to disease. Again, regular monitoring and maintenance is important. These systems should incorporate some type of water sanitizing system; chemical (chloride, hydrogen peroxide, oxine or ph control), ozone or ultraviolet light.

Ground contamination, manure handling and water runoff are also very important biosecurity concerns. Shed construction and farm landscaping must control water runoff. Sheds with simple gutter systems with diverting drain pipes can greatly reduce ground contamination and manure runoff. Governmental regulations need to be understood for your area and strictly adhered to. The spreading of contaminated manure can infect wildlife and greatly increase you and your neighbor's chances of exposure, so consider composting disease-contaminated manure until safe.

The other main source of farm contamination is purchased animals. All farms should have an isolation area to quarantine purchased animals. Ideally this area should be completely separated from the main farm sheds with its own guard fence. If this is not possible, a separate shed within the farm can be used with a temporary guard fence installed. In both cases it needs to be in a location that does not naturally drain into the main shed area. The quarantine shed should have its own dedicated equipment; coveralls, boots, gloves and a foot bath. If a feeder needs to be used, a small hand sprayer can be used to apply disinfectant to the tires. The quarantined shed should be fed last.

All purchased animals must be from vaccinated and historically Aleutian Disease free farms. The purchased mink need to be tested for AD on the original farm approximately three weeks before the mink are to be moved. Ideally the purchased mink should be isolated as much as possible from the other mink while they are waiting to be moved. The transfer of the mink should occur in either new or clean and disinfected cages. Both seller and buyer should devise an appropriate plan to transfer the mink. This should include how to disinfect any potentially contaminated area (loading docks, forklifts, trailer floors, etc.). Some people have used a secondary site, like a parking lot, to transfer the mink from the seller's truck to the buyer's truck. Please consult with your veterinarian about any requirements for health certificates and/or permits. Once the mink arrive they should be put into



the quarantine area for at least three weeks. The mink should be AD tested on arrival and possibly revaccinated.

If any mink should be tested again, wait at least three weeks from the first test at arrival. If all are negative and have shown no signs of illness, they can be put into the main farm population.

Disease monitoring is another important biosecurity tool. Disease monitoring can be divided into two areas: live animals and dead animals. Daily records need to be kept describing the amount of feed fed, any disease signs seen, the number sick, where on the ranch the disease signs first started, and the number of fatalities. By daily monitoring of the ranch, it is much easier to determine if there are slight changes occurring as compared to the last few days and the same time last year. When a disease problem is suspected, it is very important to contact your veterinarian so that diagnostic tests can be done to help identify the cause of the problem. If a contagious disease problem is found, then all efforts need to be taken to isolate and control the pathogen, not only within the farm but also to keep it from spreading to outside the farm. Unfortunately dead animals are part of any livestock operation, but they can be a very important source of information.

Routine post mortem examinations should be done by the farmer and/or veterinarian. These should be done in an area away from the feed prep areas and on a surface that is clean and disinfectable. The Lateral Flow Test can be performed on fresh, dead animals and is a very good monitoring tool throughout the year.

Disposal of casualties must also be handled correctly. Carcasses are potentially highly contaminated and infectious to other mink and people. The carcasses need to be picked up with dedicated gloves (paint them red) to contain exposure to other mink and employees. The carcasses need to be stored in sealed containers (5-gallon plastic pails with lids) until they can be disposed of properly (on-farm incineration, covered composting, or burial). You have a duty to protect your neighbors and keep any diseases from being introduced into the wildlife.

You should have a previously established protocol (consult with your veterinarian) on how the farm will react to disease. This needs to be tailored to the individual farm.

Specific blood testing for Aleutian Disease is very important. The CEIP, Lateral Flow and PCR tests are all very accurate and specific for Aleutian Disease. Ideally all breeding stock needs to be tested. Certainly economics, labor and the herd history may play a role in determining the extent and timing of the testing program. Consult with your veterinarian and together you can devise a plan on what tests and testing protocol is best for your farm.

Should a disease outbreak occur, the farm must respond immediately by isolating itself. The farm should notify its neighbors, no visitors should be allowed on the farm, the farm should notify any industry delivery companies of the situation so they can modify their schedules, and no one that works on the farm should visit other mink farms.



SECTION 3: DELIVERIES

The second main area for biosecurity concerns are deliveries to the farm. There have been documented incidents of disease transmission by uncontrolled deliveries and/or contaminated supplies.

The farm needs to have a control and monitoring plan for all deliveries. The idea of this plan is to reduce the on-farm risk of exposure from anything brought to the farm.

By discussing your biosecurity concerns with your supplier ahead of time, a simple and effective plan can be developed. Develop the plan to have deliveries made outside the perimeter fence whenever possible. If there are concerns about potential contaminations, disinfection can be done more safely outside the perimeter fence. If the delivery has to enter the perimeter fence, the vehicle needs to enter by a pre-arranged protocol. Again, the objective is to have the least amount of risk to the bio-secure area of the farm.

Signs need to be in place to direct and control deliveries.

If dumpsters for carcasses and trash are used, they need to be cleaned and disinfected prior to being brought to the farm. If possible, make arrangements with your waste disposal company to dedicate specific dumpsters to your farm.

You may also consider requesting suppliers that routinely make deliveries to sign an affidavit that states that their trucks and equipment have been cleaned and disinfected prior to arriving at the farm.

SECTION 4: VISITORS

The third component of the biosecurity plan is to control human access to your farm. Most visitors are welcome, some are not.

A quality perimeter fence with limited access areas and appropriate signage is essential. The signs should state “NO TRESPASS” and have information directing the visitor where to enter and/or a phone number to call to get permission and information on accessing the farm.

All visitors should sign an entrance log and be questioned if they have visited a farm or been in contact with mink recently. Anyone that has been on a mink farm without a complete change of outer clothing should not have access to the mink sheds or food processing area.

All visitors should be issued disposable coveralls and boots. They should also wash their hands with a disinfecting soap or use a waterless hand disinfectant.

A properly maintained footbath should be used by everyone entering the shed and/or feed prep area. Appropriate disinfectants (Phenols, hexichloridine and quaternary ammonias) need to be used in the



footbath, and the footbath needs to be cleaned whenever dirty. A poorly maintained footbath can cause more problems than it will solve. There are quality commercial footbaths available at most dairy supply companies.

If the visitors are hired workmen, make sure their tools and equipment are free of contamination. Again, this should be discussed with the company ahead of time. All visitors need to be monitored while on the farm and instructed on your biosecurity concerns.

SECTION 5: EMPLOYEES

The fourth major area of the biosecurity plan deals with the farm's employees. Your employees have direct contact with the mink and/or feed on the farm. They need to fully understand the biosecurity concerns of the farm and have a complete understanding of the biosecurity protocols.

Some of the biosecurity concepts, especially those dealing with disease transmission, can be hard to fully understand by a lot of people. Take the time to explain these concepts (use an interpreter if needed) to your employees.

You must also lead by example. Don't cut corners; your employees are watching you. The employee's employment should depend on their belief in, and adherence to, the protocols.

All employees must have dedicated coveralls and boots. The coveralls and boots need to be worn while on the farm and then removed and left at the farm before leaving.

All employees need to wash their hands before starting work and after they are finished with work for the day.

The farm needs to have written agreements with employees stating that they cannot live or work on another mink farm and that they need to come to work with clean clothes and shoes.

Employees need to be trained in disease detection and on how to document any signs seen. Some human diseases can be spread to mink (influenza), so employees need to inform the farm when they become sick before coming to work.

CONCLUSION

Biosecurity is practiced as a preventative approach to herd health as minimizing the risk of disease minimizes the frequency of disease. Each farm needs to examine its own situation and assess its potential areas of risk and what changes need to be incorporated into management practices to reduce these risks. These guidelines are recommendations that will reduce the risk of disease and contamination on your farm. Every effort should be used to incorporate these principles into your farm management.