



## FACT SHEET

# Bio-Security for Mink Ranches

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Bio-security was a term first used in the poultry industry. It is defined as 'life security, giving freedom from danger, apprehension and stress' relating to health and security issues on farms and ranches.

For mink breeders, it is the security of life from the dangers of disease and stress and the resulting deteriorating health of an animal. Today in the mink industry, the main threat to animal welfare is Aleutian Disease (AD or ADV). However, any bio-security measures put in place for a specific disease like AD will ultimately have a beneficial affect on other threats on ranch.

Bio-security is not only about preventing the suffering and death of mink. It is also about preventing economic loss to the rancher. Bio-security is about control. When ranchers gain full control of what's happening on their ranch, problems diminish.

Bio-security measures are used to:

- avoid contact with other mink on other ranches
- control access to the ranch
- restrict movement (animals, rodents, birds, feed equipment, people, etc)
- control disease
- support the effective use of disinfection and sanitation programs
- protect animals from fear of unfamiliar activities

Bio-security needs to become part of life on the ranch. This will only happen by ingraining it into daily thinking and activities.

### Bio-Security Protocol

The first thing needed is a bio-security protocol. A bio-security protocol is a list of tasks and procedures to follow to protect mink from the intrusion of disease or other threats.

The following are things to consider when developing a successful bio-security protocol:

**#1** Movement of mink breeders onto or off the ranch, as well as between sheds on the ranch, should be strictly controlled to lessen that chance of introducing new threats. Having this included in a protocol will ensure vaccination, implanting, grading, blood testing, etc. programs can be carried out on the ranch effectively. The protocol helps lay out the work plan and helps decrease the likelihood that AD control measures will interfere in everyday activities.

**#2** One of the most effective ways for disease control is an All-In, All-Out program. In the absence of a vaccination program, this is one of the effective

disease control methods available to ranchers. It can break a disease cycle on ranch and enable the rancher to gain control faster in a disease outbreak. Since AD is a virus, it multiplies quickly in the host and the host is a potent reservoir. When the host is gone, ranch clean-up is much easier.

*Remember:* AD survives in soil but is only multiplied in the host carrier. An All-In, All-Out Program as part of a bio-security protocol limits the introduction of AD to a ranch and also limits its' spread on the ranch. It allows the disease cycle to be broken with proper sanitation and disinfection. If the shed is clean, introducing clean breeders means they will stay clean, unless a carrier transports AD into the shed. The practice of moving breeders at weaning and emptying pelted sheds at pelted ensures opportunity for all sheds on the ranch to be empty at least for a short time each year. This will allow the sanitation program to be carried out effectively.

**#3** New breeders added to the breeding stock must be AD negative. Being certified negative for AD under an AD Certification Program is a must. Purchased breeders must be quarantined before being introduced to the ranch. The quarantine area or shed must be isolated from the rest of the ranch. These breeders should be tested 45 days after placement in the quarantine shed. If negative, they can be placed in the breeding shed prior to the breeding season. If any mink in the quarantine shed are positive, they all should be destroyed. Try to place the group of new breeders in the same shed.

On AD free ranches, introducing AD free breeders eliminates the potential introduction of AD or its' spread on the ranch. With appropriate attention to the breeding stock, the rancher can soon ensure AD is brought under control. Initially, the aim is to bring AD under control and then work toward total ranch clean-up.

**#4** The first and most effective way of securing the ranch is building a perimeter fence around the area of the ranch that needs to have strict bio-security. In so doing, the rancher gains control of what's entering the ranch. The fence keeps escaped mink on ranch so they can be recaptured and keeps feral mink off ranch and from contacting ranched mink. Other wildlife pests, dogs, cats, rodents and people are also kept from wandering onto the ranched area. Having only one gate and keeping it closed will reduce on-farm traffic. The placement of signs indicating a bio-secure area will further distract people and limit on-farm visitors. Solid fences also afford some protection to the mink from wind and inclement weather.

Fencing doesn't allow you to control everything that goes onto the ranch, but it does slow things down: way down! A perimeter fence is the first and best step in controlling AD on your ranch. If your ranch is AD free, it keeps it out. If your ranch has some AD positive mink it helps slow down the spread in the area and allows the rancher to ensure he has full control of his AD program. *Remember:* AD is not isolated to individual ranches – what is happening in the neighborhood impacts its spread, as well as wildlife carriers.

**#5** There are a number of pests and animals and even equipment that can physically carry the AD virus, including dogs, cats, raccoons, rodents, birds, flies, and people. There are numerous steps the rancher can do to effectively reduce the spread of AD from other carriers.

- Reduce availability of feed
- Reduce accessibility to manure, nesting and breeding materials
- Clean feed spills up immediately
- Use proper drainage so water moves away from the sheds
- Repair water leaks
- Make ranch unattractive to pests
- Use barriers to reduce access to sheds
- Reduce roosting areas for birds by cutting down trees
- Use anti-roost devices to discourage birds
- Remove manure regularly, and cover in storage
- Keep shed doors tightly closed
- Keep feed kitchen doors closed and screened in fly season

Even if a ranch is AD free, including the above in a bio-security protocol – making every effort to add AD free mink to the ranch, building fencing to gain control of traffic onto the ranch, and reducing pests – will give the rancher the control needed to clean-up and remain AD free. The key is that the rancher has gained control and the ranch has become bio-secure.

## Eradicating AD on Ranch

The next logical step is to work to eradicate the disease agent from the ranch. To do this, attention needs to be concentrated on individual sheds, the feed kitchen, storage sheds and workshops. At this point, an AD Health Assurance Program can be affectively implemented which means...

1. A bio-security protocol has been imposed
2. Breeder health is monitored with blood testing program
3. AD positive mink are removed from the ranch
4. An AD Certification Program is imposed to measure successes

With ranch bio-security established, shed-to-shed implementation needs to start. With the potential of unwelcome visitors and pests reduced, and only AD free mink being added to the ranch, there remains the feed system where AD has a possible entry and spreading point on the ranch: through the feed delivery and feed kitchen where the potential exists to affect every mink on the ranch.

The feed kitchen needs to be isolated from the rest of the ranch and other ranch activities. Central feed kitchens reduce traffic by delivery trucks and drivers onto the ranch, and eliminate the potential for pests to spread AD by having access to the on farm feed preparation area. The feed kitchen doors need to be kept closed at all times and screened during fly season. The use of door fans for feed kitchen doorways is a very effective way of reducing the entry of unwanted insects.

The feed ingredient delivery area needs to be fenced off with a separate area where containers can be stored. The feed kitchen should have a one-way flow of feed ingredients where:

- Feed ingredients are delivered and driver stays in truck
- On-farm equipment is used to unload containers
- Delivery area is kept clean by disinfecting trucks between farms and deliveries, washing and disinfecting containers between use and having proper drainage for wash water run
- Ingredients are moved into the kitchen to dry storage or freezer storage as required
- Ingredients are removed from the freezer, thawed, and used in feed mix.
- A solid partition is build between the feed kitchen mixing area and feed cart loading area (eliminating the possibility of feed carts bringing viruses back into the kitchen)
- Feed is delivered to the feed cart via an auger or conveyor through wall to adjacent feed cart loading room
- Feed carts are disinfected after use and especially after being in AD positive sheds
- Separate feed carts for used for AD negative and positive areas of ranch
- All feed kitchen equipment is washed and disinfected after feed for day is mixed.
- In-floor drainage is used for feed kitchen washing and disinfection

Mink sheds, workshops and storage sheds also need to be isolated from the main ranch to decrease the chance of cross contamination. Enclosed sheds are recommended for mink as they provide containment when dealing with escaped animals, cement floors improve clean-ability and disinfection procedures, proper screening keeps out pests, and the manure area is less accessible to pests.

Workshops should only be accessible from the ranch-side of the fence and require regular cleaning and fumigation to ensure they are not a crossover point for the AD virus. Storage sheds should not have direct access to the ranch. Tools, equipment, etc. will have to be disinfected frequently and after use in AD positive sheds. Clothing should be changed prior to entering sheds with stored materials.

## Worth the Effort

Implementing and maintaining a bio-security program will take constant mental reminders to ensure it is carried out properly and is successful. It can never be overdone. With the spread of AD in Nova Scotia's mink industry, extreme measures are needed in the short term.

When a mindset is established regarding the handling of AD, bio-security will become the norm on mink ranches well after AD has been eradicated from most farms. The poultry industry years ago had to deal with this reality. The pork industry soon followed and, after the events in Britain this past year with Hoof and Mouth, the cattle and sheep industries face the same realities.

Under a ranch bio-security program the things that come in and out of the farm are under the strict control of the rancher, and result in the highest quality product and increased economic prosperity!

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