

# VIRAL HEMORRHAGIC SEPTICEMIA PREVENTION PRACTICES CHECKLIST



Viral Hemorrhagic Septicemia, or VHS, is a severe, often fatal disease of freshwater and marine fish species. The greatest risk for introduction onto your farm is through the movement of infected fish or by contaminated water, equipment or vehicles; the virus may also be spread by contaminated clothing or footwear. Vectors, such as fish-eating birds or wildlife, may also transfer infected to fish to additional locations. This checklist is designed to help you identify risk areas for the introduction and/or spread of VHS on your farm.

## Outbreak Precautionary Measures

- Y N Have you restricted or stopped all fish movement on or off your farm to prevent entry or spread of VHS?
- Y N Have you implemented strict biosecurity measures for fish, water sources, equipment, vehicles, wildlife vectors and people on your farm?
- Y N Are you closely and frequently monitoring your fish for signs of VHS?

## Fish Movement

- Y N Do you limit contact between your fish stock and wild fish stocks?
- Y N Do you limit the frequency and number of new introductions of fish onto your farm?
- Y N Do you limit purchases to a few sources with known and trusted fish health programs?
- Y N Do you know the health status and the source of the fish brought onto your farm?
- Y N Do you only bring animals that have been inspected onto your farm?
- Y N Do you request copies of treatment records (and vaccinations, if applicable) for all purchased fish?
- Y N Do you disinfect eggs upon arrival to the farm?
- Y N Do you require that newly acquired or returned fish for your farm are quarantined for at least 3 weeks upon arrival?
- Y N Are your quarantine facilities separate from all other fish areas?
- Y N Do prevent the sharing of water, facilities or equipment between newly acquired or returned fish and your currently stocked fish?
- Y N If equipment must be used elsewhere on the farm, do you clean and disinfect the item before removing it from one location and moving it to another?

## Farm Entrance

- Y N Do you limit access to your farm?

## VHS PREVENTION PRACTICES CHECKLIST (CONT'D)



- Y N Do you have only one gated entrance to fish production areas on your farm to better control and monitor visitors and vehicles?
- Y N Do you keep the gate locked when not in use?
- Y N Have you posted signs at the farm entrance to inform visitors to stay off your farm unless they have received permission?
- Y N Is traffic on or off your farm closely monitored and recorded?
- Y N Do you maintain a log sheet to record any visitors or vehicles that come onto your farm?
- Y N Do you require delivery vehicles and visitors follow your farm biosecurity guidelines regarding parking and fish contact?

### Water Sources

- Y N Do you use pathogen-free water sources on your farm (e.g., well water, springs)?
- Y N Do you avoid surface water sources on your farm?
- Y N If surface waters are used, do you filter and disinfect water prior to using it with your fish stock to exclude unwanted aquatic species and pathogens?
- Y N Do you take measures to prevent effluent from other locations from entering your operation?

### Fish Health

- Y N Do you maintain optimum stocking densities in efforts to minimize stress to your fish?
- Y N Do you limit transfers of fish between units or locations to only those that are necessary?
- Y N Do you gentle crowding and fish handling methods when working with fish?
- Y N Do you maintain optimum water quality for fish species reared on your farm?
- Y N Do you obtain live feed from reliable sources?
- Y N Do you secure all feed storage areas and clean up spilled feed to minimize access by rodents or birds?
- Y N Have you educated yourself about VHS and the signs of infection?
- Y N Have you educated your employees about VHS and the clinical signs of infection?
- Y N Do you closely monitor fish daily for signs of illness?

***Contact your aquatic veterinarian or fish health specialist immediately if any unusual signs of illness are observed.***

## VHS PREVENTION PRACTICES CHECKLIST (CONT'D)



- Y N Do you promptly remove any dead or dying fish?
- Y N Do you promptly euthanize animals that are not going to recover?
- Y N Do you submit dead or dying fish for diagnostic testing or necropsy to determine the cause of death?
- Y N Do you immediately remove and isolate sick fish to minimize disease spread?
- Y N Do you prevent direct contact between isolated fish and other fish on the farm?
- Y N Do you maintain separate water sources for isolation areas?
- Y N Do you use separate facilities, equipment, and staff to handle isolated fish?
- Y N If it is not possible to use separate facilities, equipment and staff, do you handle or visit the isolated animals LAST?
- Y N Do you clean and disinfect all equipment, clothing, boots, etc. that come into contact with ill and isolated animals?
- Y N Do you always wash or sanitize your hands after any contact with sick or dead fish to prevent disease spread to other animals?
- Y N Do you require your employees to wash or sanitized their hands after contact with sick or dead fish to prevent disease spread?

### Record Keeping

- Y N Do you maintain a written biosecurity plan?
- Y N Do you maintain thorough and accurate records of fish introductions onto or off of your farm?
- Y N Do you maintain thorough and accurate records of fish movements on your farm?
- Y N Do you maintain thorough and accurate records of fish health issues (e.g., mortalities, treatments, vaccinations) for your fish?
- Y N Do you maintain thorough and accurate records of fish production parameters (e.g., feed conversion efficiency, growth, etc)?
- Y N Do you monitor water quality parameters closely?
- Y N Do you monitor water temperature parameters closely?
- Y N Do you keep records on water quality, feeding, animal behavior, mortality?
- Y N Has there been any history of disease on your farm?
- Y N Has there been any history of disease on your fish stock source or suppliers farm?

# VHS PREVENTION PRACTICES CHECKLIST (CONT'D)



## Equipment and Vehicles

- Y N Do you clean and disinfect any non-disposable items that come in contact with urine, feces, reproductive fluids, mucus or other body fluids of fish?
- Y N Do you clean and disinfect equipment or vehicles before reusing them with different lots of fish?
- Y N Do you know the common disinfectants that will kill the VHS virus (e.g. bleach, Virkon-Aquatic, sunlight)?
- Y N Do you clean isolation and quarantine areas regularly?
- Y N Do you clean tanks or raceways after fish are removed?
- Y N Do you lime ponds after fish are removed?
- Y N Do you restrict the sharing of equipment or vehicles between farms?
- Y N If equipment must be shared, do you clean and disinfect it before using it with animals from your farm?
- Y N Do you place foot dips near the entrance of animal areas?
- Y N Are foot dip solutions changed daily or when visibly soiled?
- Y N Do you always wear clean clothes or coveralls when coming in contact with animals?
- Y N Do you change or clean boots (e.g., foot dips) when switching between fish groups with different health status?
- Y N Do you change clothes and disinfect boots when moving between farms?

## Vectors - Wildlife

- Y N Do you keep wildlife vectors (e.g., fish-eating birds or mammals) off of your farm?
- Y N Do you have a predator management program on your farm?
- Y N Do you have a rodent control program on your farm?
- Y N Do you keep pets (e.g., dogs, cats) off of the farm?

## Vectors - Employees

- Y N Do you require that employees wear clean clothing/coveralls when working with fish?

## VHS PREVENTION PRACTICES CHECKLIST (CONT'D)



- Y N Do you require that employees wear clean boots when working with fish?
- Y N Do you require employees to use foot dips when entering and leaving fish production areas?
- Y N Do you require that employees wash or sanitized their hands before and after working with fish?

### Vectors - Visitors

- Y N Do you require visitors to check-in with farm personnel upon their arrival?
- Y N Do you require visitors to follow your farm's biosecurity procedures?
- Y N Have you minimized traffic and visitors to only those essential for the continued operation of the farm?
- Y N Do you require all visitors and vehicles to park near the entrance to the farm in established parking areas away from all fish production areas?
- Y N Are visitors accompanied by someone from the farm at all times?
- Y N Do you require that visitors avoid fish production areas unless absolutely necessary?
- Y N Do you restrict close contact or handling of fish by visitors (unless necessary for the health of the animal)?
- Y N Do you prevent your vehicles or trailers from coming in contact with any other fish stock that are not from your operation?

### Conclusion

**Total number of:**            **Yes responses**        \_\_\_\_\_            **No responses**        \_\_\_\_\_

If you have 1 or more No responses, you have identified areas for improvement on your farm. Not all questions are equal in their risk of disease transmission, so it is important to work with your aquatic veterinarian or fish health professional to develop a management plan addressing the biggest risks first. This will help minimize the chance of VHS entering your farm. Each farm will be unique in their ability to prevent disease transmission because production types, management styles, species and finances vary.