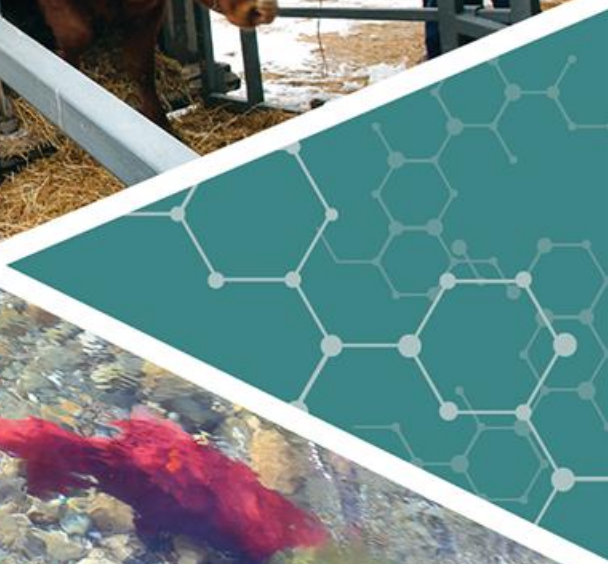




Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

MSX & Dermo: Biosecurity



Haplosporidium nelsoni

Multinucleate Sphere Unknown (MSX)

- Parasite
- Causes most damage in oysters >3 years of age
- Part of lifecycle is completed outside of oyster
 - Unknown intermediate host
- Up to 95% mortality of oysters within 3 years

Perkinsus marinus

Perkinsosis or Dermo

- Parasite
- Complete life cycle in oysters
- Most damage in oysters >1 year
- Mortality of 50-75%

Summary

Dermo

- Parasite
- Spread by oyster introduction and processing effluent
- 3 year trace out
- Direct transmission
- Easier to inadvertently move
- 50-75% mortality
- Higher prevalence when detected
- Biosecurity important

MSX

- Parasite
- Spread by oyster introduction and processing effluent
- 10 month trace out
- Unknown transmission
- Unknown intermediate host needs to be present
- 90-95% mortality
- Can remain at low prevalence
- Biosecurity important

Sick Oysters

- Thin watery tissues
- Gaping
- Slow to close when disturbed
- Increased mortality
- Obligation to report sick oysters
 - Provincial CVO
 - CFIA



How do MSX and Dermo spread?

- Oyster movements biggest risk
 - Oyster equipment
 - Water currents
 - Processing effluent
 - Summer temperatures required for disease spread
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Low Risk Activities

- Recreational Boating
- Recreational harvesting
- Aquaculture/harvest of other shellfish species

How to protect

- Make sure the vessel or boat is clean and in good repair
- Wear waterproof protective gear
- Be prepared with essential supplies
- Clean, rinse and disinfect
- [MSX and Dermo: Biosecurity guidelines for primary control zones - inspection.canada.ca](#)

What do I need?

- Bleach
 - 1/4c bleach and top up to 4L with water
- Water
- Garden sprayer
- Clock
- Waterproof clothing
- Scrub brush



Scrub, Disinfect, Rinse

- Clean and Dirty Zones
 - Truck cab always clean
 - Boat is dirty when it is just out of the water
- Cleaning order
 1. Inside Boat
 2. Outside Boat
 3. Equipment
 4. Rubber Clothes
 5. Boots



Your Boat

- Using scrub brush, water and dish soap if needed
 - Remove all slime, seaweed, dirt, bird droppings
 - Even if it looks clean, wash it anyways
- Rinse off soap
- Apply bleach solution
- Make sure it stays wet for 10 minutes
- Rinse off with fresh water

Rubber Suit, Equipment, Lifejacket and Boots

- Wash off debris with soap and water
- Rinse off soap
- Remove before applying bleach solution
- Make sure it stays wet for 10 mins
- Rinse with fresh water
- Anything unable to be bleached, soak in fresh water for 24h
- Change your boots
- Allow to dry completely
- Put inside tote with lid



We are the CFIA.

The Canadian Food Inspection Agency (CFIA) touches the lives of all Canadians in so many positive ways.

Each day, hard-working CFIA employees—including inspectors, veterinarians and scientists—inspect food for safety risks, protect plants from pests and invasive species, and respond to animal diseases that could threaten Canada's national herd and human health.

Guided by science-based decision-making and modern regulations, the Agency works tirelessly to ensure access to safe and healthy food in Canada, and support access to international markets for our high-quality agricultural products.

To learn more, visit inspection.canada.ca.

