



# AQUAPLAN DISEASE INFORMATION LEAFLET

## RAINBOW TROUT FRY SYNDROME

### BACKGROUND

- Rainbow Trout Fry Syndrome (RTFS) is caused by a gram-negative, rod-like, filamentous bacterium, *Flavobacterium psychrophilum*. The disease is also known as bacterial cold water disease.
- RTFS is a significant systemic bacterial disease with a worldwide distribution. *F. psychrophilum* can affect all species of salmonid fish and is also known to cause disease in a range of other fish species such as eel, carp and tench.
- RTFS can cause high mortalities (10% – 30%) or it can result in a failure of the fish to thrive.
- The disease affects rainbow trout ranging in size from 0.2g – 100g at water temperatures of <10°C.

### CLINICAL SIGNS

- Affected fish become lethargic, stop feeding, exhibit an abnormal spiral swimming behaviour and swim close to the inlet/outlet pipes or close to the side of the tanks.
- The fish become dark with pale gills, swollen eyes, distended abdomen and exhibit a reddening of the vent. External lesions such as skin ulceration are more often seen in older fish.
- Internally the spleen is swollen, and there may be bloody fluid in the body cavity.

## DIAGNOSIS

- Histopathological examination can reveal dramatic inflammation around the spleen.
- *Flavobacterium psychrophilum* is a relatively fastidious organism which grows best at 15°C on selective agar plates.
- *F. psychrophilum* grows as moist, yellow, raised and convex colonies on Anacher & Ordhal's medium after three to six days incubation.
- Serological and molecular based methods are also available for detection of the pathogen.

## CONTROL

- Disease spread can occur both through horizontal transmission (through the water and infected fish) and vertical transmission from broodfish to offspring.
- Incoming stock should be screened for the disease and only disease free fish stocked.
- Antimicrobial therapy is the most effective method of control, however resistance is widespread. (All antibiotic treatment requires veterinary supervision and a prescription).
- There is no commercial vaccine available although a number are at the experimental stage.

## WHAT SHOULD I DO?

- Minimise potentially stressful procedures such as handling and grading when RTFS is suspected or confirmed.
- As RTFS is not listed under Council Directive 2006/88/EC, control of the disease is a matter for the operator and the retained veterinary practitioner.
- Strict biosecurity measures should be implemented around the infected site.
- Remove moribund and dead fish from infected tanks daily. Mortalities should be disposed of in accordance with current Animal By-Products Regulations.
- If the vet notices a change in the nature of the infection and suspects a more virulent disease is emerging or alternatively, if a disease is suspected in a new host species, you should contact the Fish Health Unit of the Marine Institute. If you suspect the presence of a listed disease you should also notify the Marine Institute.

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