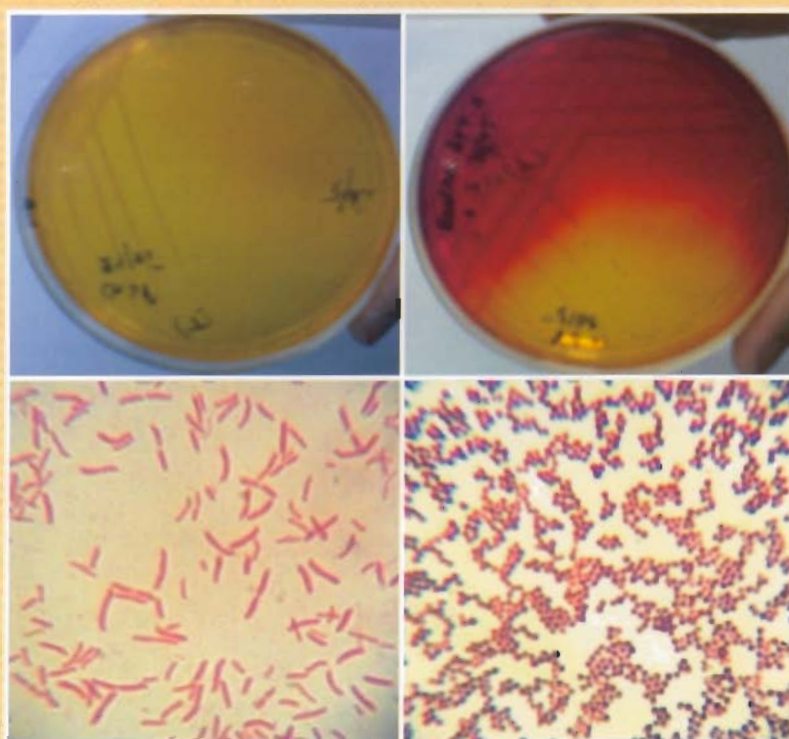


Bacterial diseases in farmed rainbow trout



Fish resides in a continuous state of equilibrium with the environment and pathogen. Pathogens are always present in the aquatic environment or on fish body but they cause a disease only when this equilibrium gets disturbed.



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Most of the bacteria associated with fish diseases are naturally saprophytic organisms, widely distributed in the aquatic environment. Some of the important bacterial disease of rainbow trout are-

Cold Water Disease (CWD)

Bacterial cold water disease (CWD) is a serious septicemic infection of hatchery-reared salmonids. The disease is also known as rainbow trout fry syndrome (RTFS) or rainbow trout fry anemia. *Flavobacterium psychrophilum* is the causal agent of this diseases.

Clinical signs

Hemorrhages at the base of fins, pale gills, hemorrhagic ulceration in muscle, tail rot, lethargy, darkened skin, ascites, and exophthalmia are usually observed in the infected fish.

Treatment and control

Florfenicol, a chloramphenicol related antibiotic with trade name Aquaflor also appears to be effective at rate of 10mg/kg body weight/day for 10 days.

Bacterial Kidney Disease (BKD)

Bacterial Kidney Disease (BKD) is a systemic infection of salmonids. The disease is transmitted by both vertically and horizontally.

Clinical signs

Pale gills, exophthalmia, abdominal distension (due to ascites), skin blisters (filled with clear or turbid fluid), shallow ulcers (the results of broken skin blisters), hemorrhages (particularly around the vent) and more rarely, cavitation in the musculature are usually observed. Prevention is the first and strongest line of defense. Chemotherapy (erythromycin) provides limited and only temporary relief.

Enteric Red Mouth disease (ERM)

Enteric Red Mouth disease (ERM) is a systemic bacterial infection of fishes, but is principally a problem for young farmed rainbow trout.

Clinical Signs

Lethargy, darkening of skin, congestion around the mouth, operculum and at the base of the fins. Other signs seen include exophthalmos, ulceration and coetaneous petechiae.

Broad-spectrum antibiotics effective in controlling an outbreak, but increasing antibiotic resistance are observed and sensitivity should be tested.

Furunculosis

Furunculosis is a fatal epizootic disease, primarily of salmonids, caused by the bacterium *Aeromonas salmonicida*. Salmonids (wild and farmed) can carry the organism and when these fish are stressed, such as with high water temperatures or low oxygen levels, then clinical disease can break.

Clinical Signs

High mortalities, without external signs of infection, dark in colour, lethargic with reddening at the fin bases or head. Internally there may be widespread petechiae in the viscera and a swollen spleen.

Treatment and Control

Feed 40-80mg of amoxicillin trihydrate / kg of body weight/day for 10 days is more effective for against the resistance isolates.

Bacterial Gill Disease

Bacterial gill disease is an important disease in farmed freshwater salmonids caused by bacterium *Flavobacterium branchiophila*.

Clinical Signs

Lethargy, dyspnea, coughing and inflamed opercular region.

BGD usually responds well to antiseptic and surfactant baths such as chloramine T and benzalkonium chloride.

Mycobacteriosis (Fish tuberculosis)

Mycobacteriosis in fish is a chronic progressive disease caused by certain bacterial species within the genus *Mycobacterium*.

Clinical Signs

Emaciation, skin inflammation, pop-eye, skin lesions or ulceration can all be observed.

There is no fully effective treatment therefore the best course is to cull and disinfect premises.

Red mark syndrome (RMS) or cold water strawberry disease

Red mark syndrome (RMS) is an infectious dermatitis of rainbow trout, which does not cause mortality but presents as dramatic hemorrhagic marks on the skin.

Clinical signs

Red, hemorrhagic marks on the flanks of trout can appear suddenly and then resolve within a few weeks (or months) without treatment.

Treatment and control

The lesions will resolve eventually without treatment, however, broad-spectrum antibiotics do induce a rapid healing of the condition.

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