Isolation of Flavobacterium psychrophilum causing RTFS (rainbow trout fry syndrome) and determination of an effective antibacterial treatment in rainbow trout (Oncorhynchus mykiss) fry

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Flavobacterium psychrophilum (F. psychrophilum) causes the septicemic diseases rainbow trout fry syndrome (RTFS) in rainbow trout (Oncorhynchus mykiss) fry. The infection is widespread in many countries and causes severe mortalities and economic losses. The aims of the present study are isolation of F. pschrophilum, and determination of antibacterial susceptibility and an effective antibacterial treatment in rainbow trout fry.

Fort this purpose, weighted 1-2 g fry were obtained from a private fish farm in Mugla. It was estimated that they were naturally infected with F. psychrophilum from fry department and used for the study. Bacteriological samples were taken from gill, kidney, liver, intestine, spleen, brain and parts of the lesions of the rainbow trout fry and were streaked onto Cytophaga agar plates. Following phenotypic, biochemical and enzyme tests aimed the identification of bacteria.

Kirby-Bauer disc diffusion method was used for determination of antibacterial susceptibility. According to antibiotic susceptibility tests, F. psychrophilum was resistant to amoxicillin/clavulanic acid, ampicillin, gentamicin, penicilin G and sulphamethoksazole-trimetrophim and was susceptible to oxytetracycline, enrofloxacin, ciprofloxacin and florfenicol.

Four antibiotic were selected according to the in vitro study. The antibiotic concentrations in the medicated feeds were to give a dose of 75 mg/kg/day oxytetracycline and 10 mg/kg/day enrofloxacin, ciprofloxacin and florfenicol each antibiotics for 10 days.

When considered the clinical signs and death rates among the infected rainbow trout fry, oxytetracycline, enrofloxacin and ciprofloxacin could not displayed enough efficacy. However, florfenicol showed much higher efficacy for controlling the infection and at the end of the treatment, the death rate caused by the infection was decreased significantly.

Key words; Antibiotics, florfenicol, RTFS, susceptibility, treatment