Abstract

The indiscriminate use of antibiotics for the control of bacterial infections in cultures of aquatic organisms, administered in a systemic way, has provoked the presence of R plasmids in bacterial strains of high risk for aquaculture; therefore, it is important to study new natural alternatives not only to prevent bacterial infections, but to prevent the use of antibiotics. Oedogonium capillare alga presented, in previous in vitro studies, the capacity to inhibit the growth of different bacterial species of ichthyopathogenic importance. The objective of the present study is to prove in vivo the antibacterial capacity of the alga against infections caused by the pathogen Vibrio fluvialis in Carassius auratus Golden fish. The activity of the hexanic extract of O. capillare alga was proved from the start of the treatments administration through three different channels: intramuscular, food and baths, after fishes were experimentally inoculated with V. fluvialis. The use of the extract by these channels was not effective; therefore, different ways of treatments were tested by administering them before and after the infection was experimentally provoked. Fish treated with additional dry alga in feed before and after being infected, surpassed the infection in 80% of cases. Fish treated with alcoholic extract of O. capillare registered higher than 80% of survival. Significant differences were obtained in relation to the control group and the hexanic extract by intramuscular and feed channels. The significant differences between treatments were proved by analysis of multiple comparisons of Kruskal Wallis.

Keywords

ANTIBACTERIAL, OEDOOGONIUM CAPILLARE, AQUACULTURE, CARASSIUS AURATUS, NATURAL EXTRACTS, CONTROL, INFECTIONS, VIBRIO FLUVIALIS.