TITLE: MICROBIOLOGICAL CHARACTERIZATION OF BACTERIA ISOLATED FROM NURSERIES USED IN FISH FARMING

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ABSTRACT:

Fish farming in Brazil is seen as a promising activity economically, and can be operated in extensive, semi-intensive and intensive systems. In order to intensify more and more production, are adopted some practices, such as organic fertilization in the vivarium, consisting on the insertion of animal feces. This practice is performed in order to stimulate the proliferation of plankton (live food with high nutritional content) to serve as natural food, improving performance on weight gain of fish, serving as an alternative to food for the producer, once the power supply is one of the most expensive parts of this sector. Thus, the objective of this work was to evaluate the interference of organic fertilizer in microbiological profile in fish and water. This work evaluated eight water samples (sludge and surface) and fish, collected from two ponds populated with Nile tilapia (*Oreochromis* niloticus), used in the semi-intensive system. A vivarium has been previously fertilized and another not fertilized. One of the analyses, the total count of aerobic mesophilic, *Salmonella* spp isolation, identification of selective media for the genre and biochemical presumptive test. Also were surveyed thermotolerant coliforms in evaluated samples. Finally, it was investigated the presence of *Aeromonas hydrophila*. For this, colonies with mucoid feature to biochemical identification were selected after isolation. In relation to the obtained results from the total bacterial count, there was a difference in the sludge samples. The sludge of fertilized presented a higher count compared to the control. This result was related to Organic fertilization, that to decant, as much concentrated microorganism, leaving the surface less polluted. Undesirable results were obtained in accordance with the resolution-RDC 12/2001 (ANVISA) for testing of the most probable number of Coliform in both groups, suggesting that the water from the River in which the tanks were supplied was inadequate. In this research we identified three genera surveyed in two groups. It was suggested that the contamination found in samples of this research could be from waste and sewage to improper treatment which have been thrown into the river that supplies the nurseries in the region under study. Thus, it was concluded that the Organic fertilization is feasible, provided that there is still water quality control.

KEYWORDS: Nile tilapia, Organic fertilization, semi-intensive system.