

TANK DESIGN AND ACTION OF RAINBOW TROUT (*ONCORHYNCHUS MYKISS*)

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INTRODUCTION

Tank design can influence fish behaviour, water flow characteristics and quality, and biological performance. According to their shapes, rearing tank designs can be classified into circular and rectangular (raceway). Circular tanks with relatively high-velocity water flow provide uniform water quality, while raceways usually with low-velocity water flow generate a distinct water quality gradient from inlet to outlet. Furthermore, rate of aggression among fish in circular (mixed-flow) tanks with a uniform fish distribution tends to be higher than in raceways (plug-flow), where the distribution of fish is uneven. In this study action of the rainbow trout is addressed under circular tank and raceway culture.

MATERIALS AND METHODS

Rainbow trout, hatched and grown in captivity, were graded, randomly selected and transferred to six circular tanks and six raceways supported by a freshwater recirculation system in a temperature-controlled and insulated room. agonistic behaviour of each fish in the raceways was scored based on aggressive acts; these included chasing, nips and pushing.

RESULTS

As expected the frequency of agonistic acts among the fish was more severe and intense in circular tanks than in raceway culture. A sort of dominant hierarchies was established in raceway culture. This was not observed in circular tank.

DUSCUSSION AND CONCLUSION

In any tank design however, attention is paid to water flow management, because current may affect feed distribution, fish swimming orientation and activity, schooling behaviour and agonistic responses. In the case of rainbow trout, tank design is one of the most important determining factors in fish distribution and orientation, total aggression and other physical and biological variables.