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Effects of Starvation Stress on Antioxidant Defense System in Rainbow Trout (Oncorhynchus mykiss)

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Abstract : The sustainability of aquaculture is possible through the conscious use of resources and minimization of environmental impacts. These can be achieved through science-based planning, ecosystem-based management, strict observations and controls. The ideal water temperature for rainbow trout, which are intensively farmed in the Black Sea Region of Turkey, should be below 20 oC. In summer, the water temperature exceeds this value in some dams where production is carried out. For this reason, it has become obligatory to transfer to dams where the water temperature is low in order to provide suitable temperature conditions. There are many factors that may cause stress to trout during transportation. Some of these stress factors are starvation of the fish for a while to avoid contamination of the water, mobility and noise during transportation and loading, dissolved oxygen content and composition of the water in the transportation tanks, etc. The starvation stress caused by starvation/lack of food during transportation causes a certain amount of loss of macronutrients such as carbohydrates, proteins and fats in the tissues. This situation causes changes in metabolic activities and the energy balance of fish species. In this study, oxidant-antioxidant values and stress markers of rainbow trout starved before transplantation will be evaluated.

Keywords : oncorhynchus mykiss, starvation stress, TAS, TOS
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