

3rd International Conference on

Aquaculture & Fisheries

September 29-October 01, 2016 London, UK

Stress and fish welfare non-Invasive measurement of cortisol in fish holding water

Kay Lübke and Helmut Wedekind

Institute for Fisheries of the Bavarian States Research Center, Germany

Today the issue of animal welfare is of increasing importance, especially in farmed fish. Both, consumers and producers, are highly interested in a good welfare status of the fish for ethical, as well as product quality reasons. In this context some management actions were applied in aquaculture, e.g. high stocking densities or raising fish in artificial habitats came under criticism. To evaluate common husbandry actions in aquaculture a non-invasive method for measuring cortisol, the most important stress parameter, in fish holding water was used. A set of investigations was done mainly with rainbow trout. In the beginning, tests were made to gain information about cortisol release under normal husbandry conditions (reference/basic values). First results indicated a basic release rate of approximately 0.1 ng/(g*h) for smaller trout and even lower values for larger fish sizes. Furthermore, the short term influences of management actions were studied as well as the long term influence of different stocking densities. To determine the welfare in the long term study, further parameters as the general performance of the fish, e.g. growth, food conversion, survival, and the fin condition index was used next to the cortisol release. Here, we found that actions like netting and transferring fish to another pond provoked a sharp increase in cortisol release rate, but only for one to two hours. Furthermore, high density does not lead to increased cortisol release or impaired welfare in other parameters, if environmental conditions are managed correctly.

Biography

Kay Lübke has completed his studies on Marine and Fish Biology at Rostock University. He is now a Scientist at the Institute for Fisheries of the Bavarian States Research Center.

kay.luebke@lfl.bayern.de

Notes: