

# **The Effects of Chemical and Handle Stress in the Fatty Acid Profile in Muscle and Perivisceral Fat from *Sparus aurata*.**

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The stress caused a deviation in the utilization of energy; this affects the fish's performance and body composition, with a decrease in fat content. In fish, the change in content could affect fatty acid (FA) profile and consequently the quality of fat, which is considered as one of the healthiest properties of fish intake related with *n*-3 and *n*-6 FAs. On the other hand, the change on FA percentage could be different in different organs. This work studies the effect of stress with two different origins (chemical and handling) on the FA profile in muscle and perivisceral fat.

75 immature *Sparus aurata* were distributed in 3 different tanks: control, chemical stress and handling stress. The chemical stress was induced by 24 hour exposition each week to a low dose of a pesticide. The handling stress was caused by putting a net once a day into the tank for 30 secs. The fishes were sampled at 60 days from the beginning of the experiment. Each fish was measured and weighed. The perivisceral fat and muscle was quickly removed and frozen until FA analysis.

The results show that under our experimental conditions, the handling stress induces more changes in FA content than chemical stress. The handling stress increased the *n*-3 FAs and decreased the monounsaturated FAs in both tissues (muscle and perivisceral fat). The *n*-6 FAs decreased only in perivisceral fat. However, the FA percentage is similar between control fish and those which were exposed to the pesticide.