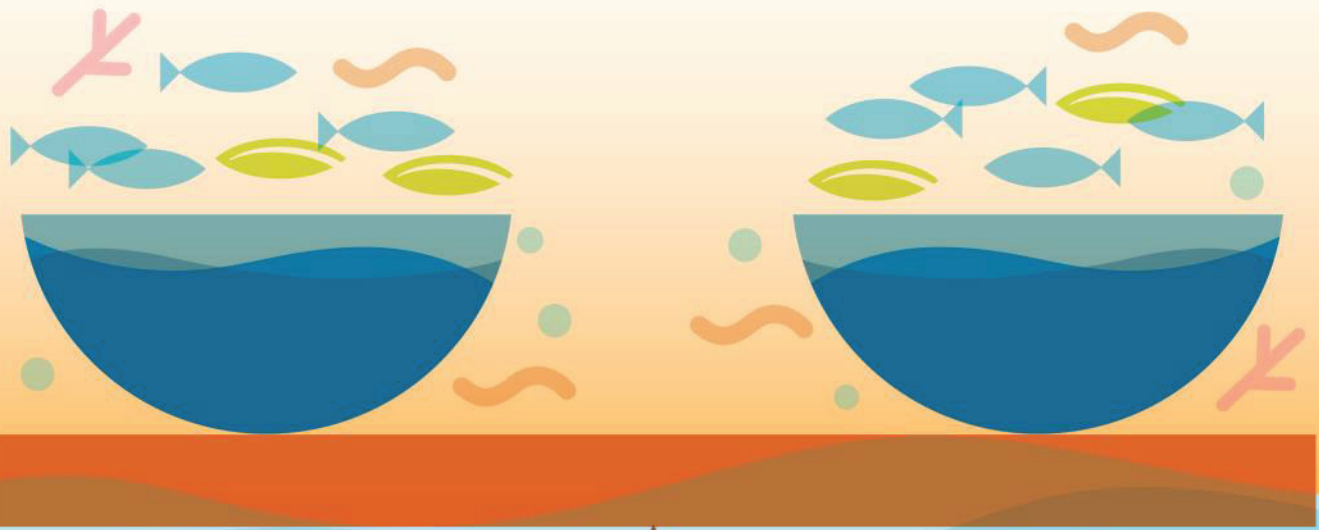


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ABSTRACTS

CAN SUPPLEMENTED DIETS REDUCE STRESS IN CULTURED FISH? EFFECTS OF INCLUSION OF A NATURAL ADDITIVE WITH “RELAXING EFFECTS” IN *Seriola dumerili* UNDER RAS CONDITIONS

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Introduction

Aquaculture is a productive area in continuous growth, where the constant search of new potential cultured species is a key factor for its industry development. Thus, inside the genus *Seriola* that include 12 species, the greater amberjack (*Seriola dumerili*) is considered the one of the species with the highest potential for aquaculture (Corriero et al., 2021). However, actually, there are many biological and zootechnical aspect to optimize for its industry expansion. Among this factor, the study of stress in fish has significantly increased in the last years, mainly due to its close connection to animal welfare. Based in the growing researches aimed to the use of dietary additives in fish stress mitigation (Herrera et al., 2019), the purpose of this study was to evaluate the effects of the inclusion of a relaxing additive (RELAQUAX) provided by BEDSON S.A. (Málaga, Spain) in the daily aquafeeds about the growth performance, metabolism and welfare of *S. dumerili* cultured to a medium stocking density, established in a previous trial, and later subjected to a thermal challenge under RAS conditions.

Material and Methods

Greater amberjacks were obtained from natural spawning at the ECOQUA Institute from University of Las Palmas de Gran Canaria (Canary Islands, Spain) and transferred to CTAQUA facilities (Cádiz, Spain). Then, a total of 540 individuals (~144 g) were distributed in a RAS system with 9 tanks of 400 L (60 fish per tank), which constituted the 3 experimental groups (in triplicate). Fish were fed three daily times, until visual apparent satiety, with i) standard aquafeed without experimental additive (Control diet), ii) standard diet with 1 g of RELAQUAX/kg aquafeed (D1), iii) standard diet with 2 g of RELAQUAX/kg aquafeed (D2) during 69 days under control cultured conditions (22 °C, O₂ saturation, 12L:12D). After this period, fish were maintained with the same diets for an additional period of 21 days more at 14 °C water temperature, simulating winter Mediterranean conditions. After both feeding/thermal trials, a biometric sampling was done, and samples from plasma, liver, muscle and water from each experimental tank were taken. Somatic and zootechnical indices were also calculated.

Results and Discussion

For both assays periods, 69d at 22°C (pre-challenge) and 21d at 14°C (challenge), no significant differences were observed in the growth parameters, somatic and zootechnical indices of fish regarding the experimental diets ingested. However, similar to results showed in Fernández-Montero et al. (2018), significant differences were observed in Specific Growth Rate (SGR) and Feed Intake between the fish fed with the same diets during pre- and thermal challenge periods (Table 1), with worse SGR values in fish cultured at low water temperature. Even so, an improved Feed Conversion Ratio (FCR) at lower temperatures was more evident in fish fed with the D1 diet during thermal challenge compared with those fish fed D1 during pre-challenge period. These results would be indicative that a dietary inclusion of the experimental additive to 1 g/kg doses could help to maintain, or even improve, the FCR in fish cultured under low temperature for short time periods.

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