

# **Systematic Analysis of Chitosan Effects on Aquaculture-Relevant Fish**

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Chitosan has attracted considerable interest in aquaculture owing to its antibacterial, antifungal, growth-promoting, and immunostimulatory properties, which are inherently associated with the polymer's structural features. Nevertheless, critical physicochemical parameters - namely molecular weight (MW) and degree of acetylation (DA) - are frequently neglected, contributing to inconsistent and sometimes contradictory reports of chitosan activity and, consequently, limiting reproducibility. These issues highlight the pressing need for systematic characterization and standardization in the use of chitosan within aquaculture. Here, we present ongoing work involving the systematic evaluation of a series of in-house produced chitosans in gilthead seabream (*Sparus aurata*).

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