

Assessment of liquid formulations for aquaculture disease treatment

Aquaculture is one of the food production systems that has experienced the greatest growth in recent decades with the aim of decreasing excessive extractive fishing while meeting global demand. However, aquaculture relies heavily on the use of antibiotics to combat the devastating effect of infectious diseases on the production. This indiscriminate use of antibiotics has a strong negative impact on the environment and public health, contributing to the development of antimicrobial resistance (AMR). Moreover, the lack of substitutive treatments remains a challenge for the sector.

NeoGiANT aims to offer effective and economically viable alternatives based on liquid formulations of grape extracts to manage infections in aquaculture. This approach is based on the antimicrobial properties conferred by the array of polyphenols present in the extracts.

To this end, the most environmentally friendly extracts and with the highest polyphenol content have been chosen. The selected raw extracts were adequately formulated for their use in both fresh and sea water fish baths and the physicochemical characteristics of the water after dosing were tested. Even for short period treatments, specific characteristics of the water (pH, osmolarity, conductivity) have to be maintained to avoid fish stress or more serious toxic effects. In preliminary studies carried out with zebrafish as model fish, one of the liquid formulations tested has shown good compatibility and fish performance.