



# Nowaste

From 2014-2019 | Total budget € 300,000

Over the past decades the aquaculture sector has seen a tremendous growth and intensification in order to meet the growing global demand for animal proteins. This intensification came with a cost as it resulted in an increase in disease incidences due to several factors. A common countermeasure for the increased disease incidence is the use of antibiotics.  $\beta$ -glucans are a waste product from bio-ethanol industries and can be used to improve immune functioning in aquaculture fish. Optimal use of  $\beta$ -glucans might reduce the need for antibiotic usage in aquaculture and improve the sustainable use of waste products from the bio-ethanol industry.

This project combined the laboratory expertise of Cell Biology and Immunology group of the Wageningen University & Research (WUR), with the field experience of the Centro de Aquicultura da Unesp (Caunesp, Brazil) from Sao Paulo and practical experience from the industrial partner Biorigin (Zilor, Lençóis Paulista, Brazil). The project resulted in several elucidating insights in the fundamental mechanisms controlling the immuno-modulatory effects of  $\beta$ -glucans and innovative new methods to administer the  $\beta$ -glucans. Taken together, this project resulted in a better understanding of the use of a bio-ethanol waste product, possibly leading to improvement of fish health and welfare and reduction of the need for antibiotic usage.

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**More information:**

<https://bv.fapesp.br/en/auxilios/84126/use-of-branched-1316-glucan-macrogard-a-waste-production-of-sugar-and-ethanol-from-bakers-ye/>

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