

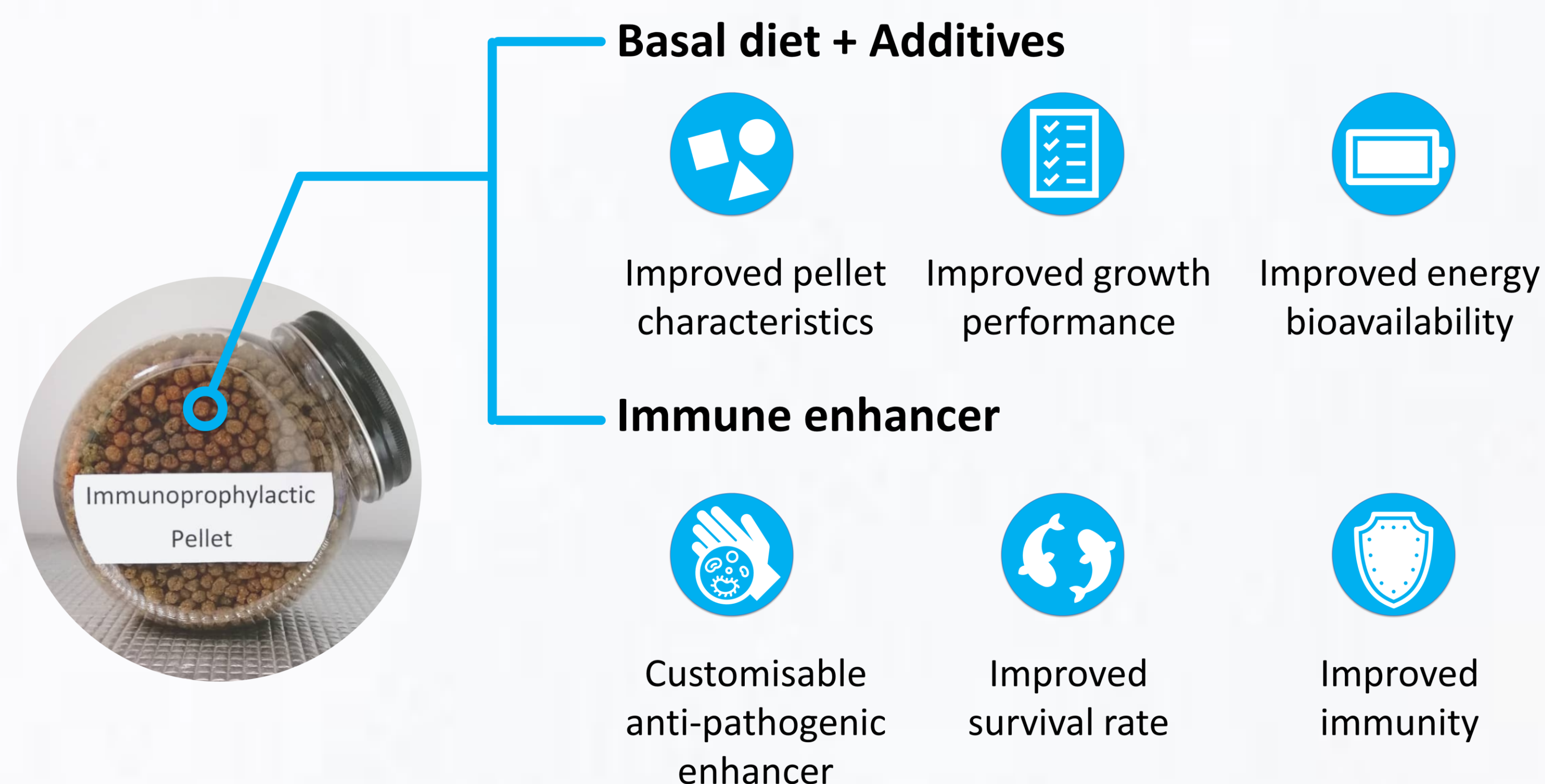


# A Composition for an Immune-Enhancing Aquaculture Pellet

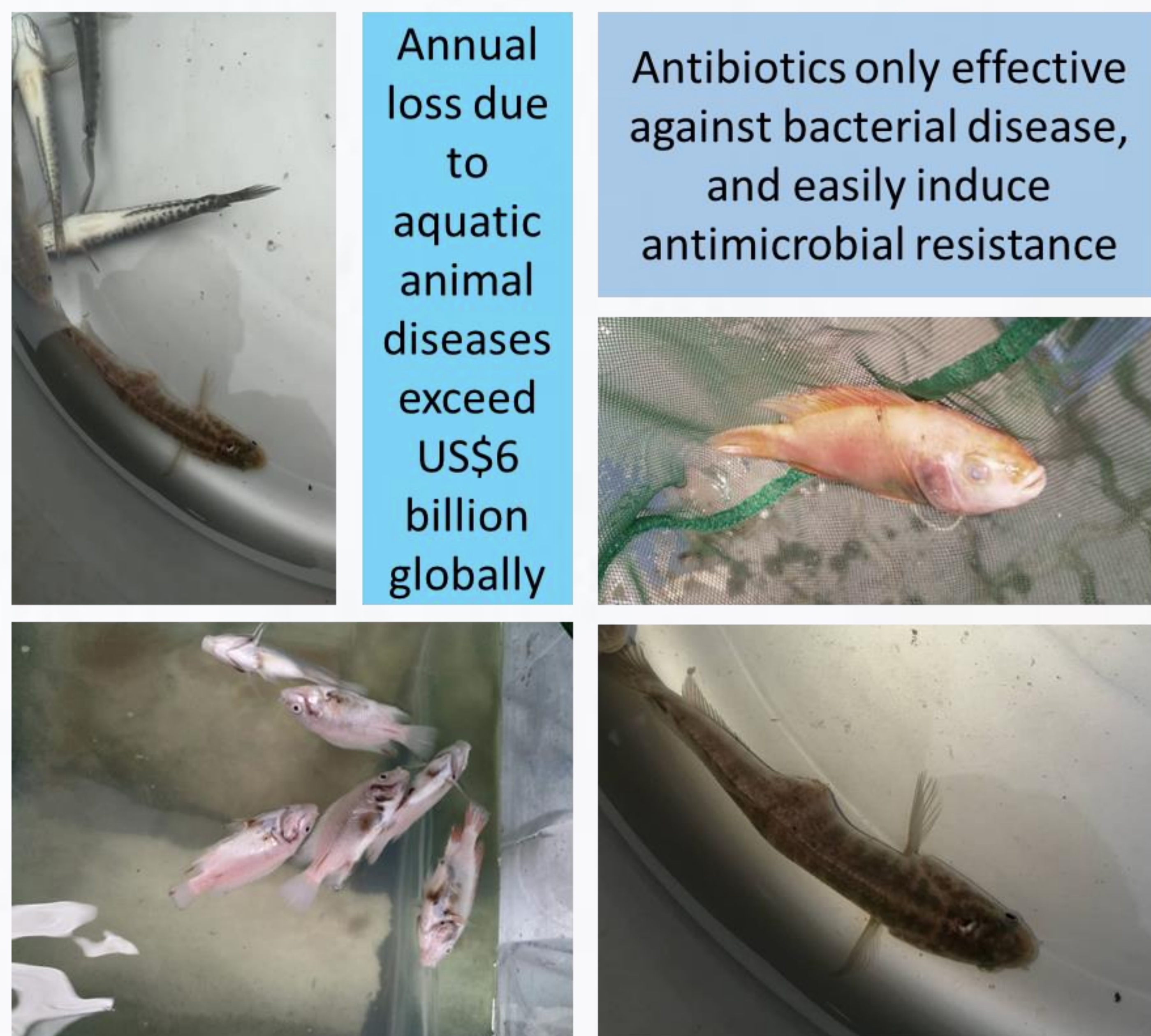
PATENT NO. PI 2018002993

## BRIEF TECHNOLOGY

The present invention includes a new and effective composition of pellet for the aquaculture candidates. This invention is able to improve pathogenic resistance and enhance innate immune responses as well as increase feed conversion rate.



## PROBLEM STATEMENT & CURRENT ISSUES

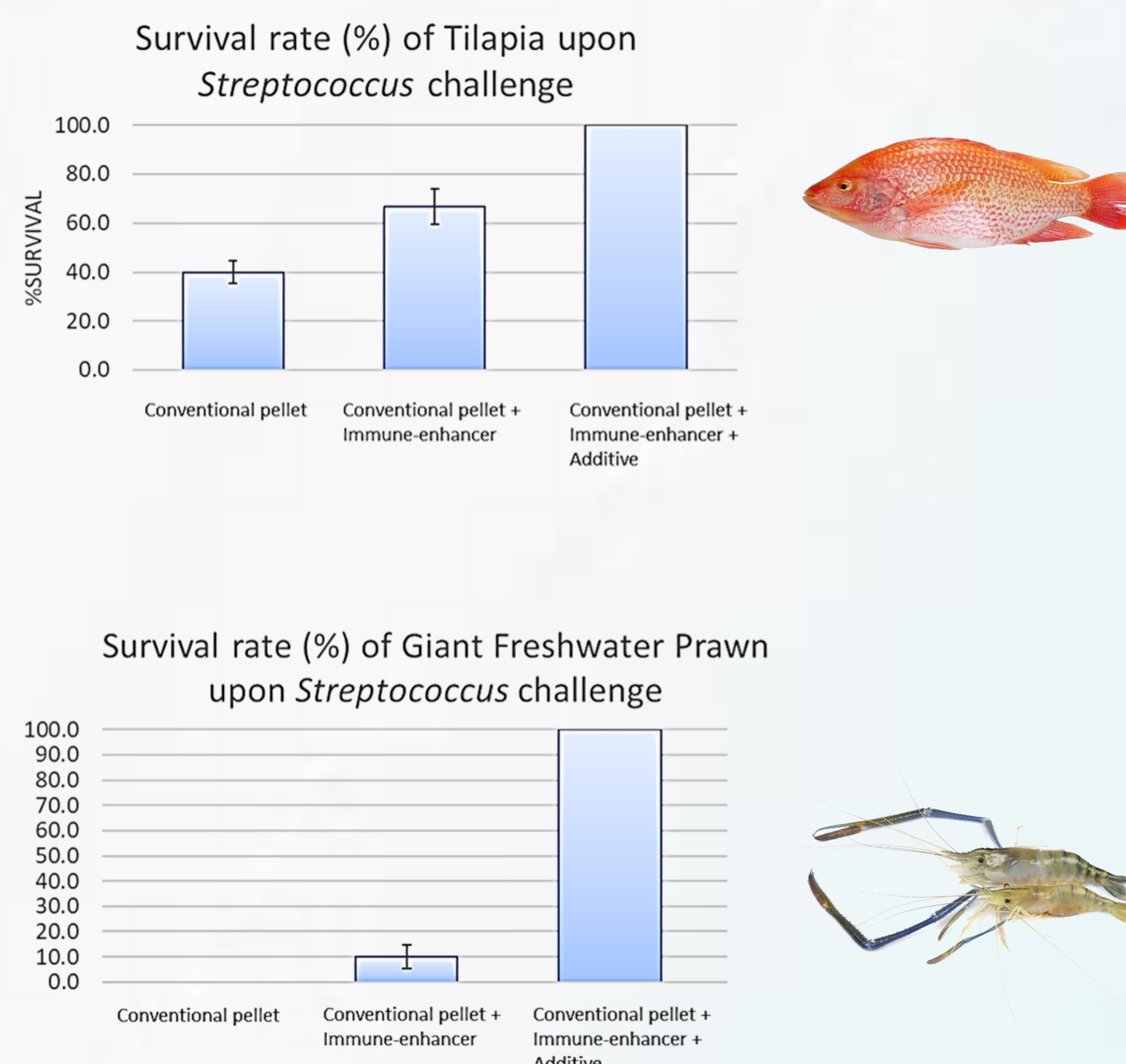


## INVENTIVENESS & NOVELTY

The present invention has been proven experimentally to be cost-effective and customisable according to aquaculture species and choice of pathogens.

## USEFULNESS & APPLICATION

The present invention has been tested in various aquaculture species using different types of pathogens



## IMPACT OF THE PRODUCT

Category	Parameter	Conventional pellet	Current innovation
Pellet characteristics	Pellet Durability Index (%)	90.86 ± 0.43	93.55 ± 0.96
	Water Stability (%)	62.27 ± 2.60	82.21 ± 1.05
	Water Absorption Index (%)	2.10 ± 0.01	2.87 ± 0.01
	Water Solubility Index (%)	9.02 ± 0.27	9.94 ± 0.17
	Protein Solubility (%)	15.81 ± 0.47	17.69 ± 0.35
	Specific growth rate - Weight (SGR) expressed as % day <sup>-1</sup>	2.76 ± 0.08	2.96 ± 0.10
Growth performance	FCR	1.19 ± 0.11	1.06 ± 0.12
	Liver glycogen (%)	38.21 ± 0.24	49.63 ± 1.04
Energy bioavailability	Crude lipid	22.5 ± 1.4	26.0 ± 0.5
Immune protection	Phagocytic capability		
	• % Reactive Phagocyte	59.4 ± 1.6	69.9 ± 2.2
	• % Phagocytes engulfing >2 beads	23.2 ± 2.0	27.2 ± 4.9
	Respiratory burst (OD <sub>620</sub> )	0.67 ± 0.07	0.84 ± 0.09

## MARKET POTENTIAL

Marine & freshwater aquaculture; finfish and crustacean industries; other veterinary commodities

TRL : 5 - Validation in real environment



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