

**TECH OFFER**

**Cost-effective Feed Formulation for Malabar Snapper (*Lutjanus Malabaricus*)**



**KEY INFORMATION**

TECHNOLOGY CATEGORY:

**Sustainability** - Sustainable Living

**Sustainability** - Food Security

**Life Sciences** - Agriculture & Aquaculture

TECHNOLOGY READINESS LEVEL (TRL): **TRL8**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO175296**

**OVERVIEW**

The Malabar snapper (*Lutjanus malabaricus*) is a highly sought-after carnivorous fish species, extensively cultured in Singapore and the Indo-Pacific region. Despite its aquaculture significance, no commercial feeds specifically designed to meet its nutritional requirements are available. Instead, production relies on generic diets, which are not cost-effective nor optimized for Malabar snapper's growth and well-being. This existing practice not only drives up feed costs but also hampers productivity and increases the species' vulnerability to diseases.

To address these challenges, a tailored feed formulation for Malabar snapper has been developed to minimize reliance on fish meal by incorporating cost-effective, locally sourced alternative protein ingredients. This innovative approach is designed to optimize growth performance, enhance nutrient utilization, and strengthen health outcomes in Malabar snapper aquaculture.

## TECHNOLOGY FEATURES & SPECIFICATIONS

This specialised feed has been developed to meet the dietary requirements of Malabar Snapper, optimising growth, health, and feed efficiency. The formulation consists of a balanced proportion of proteins, carbohydrates, and oils, supplemented with essential micro-ingredients. A co-rotational twin-screw extruder was used to ensure uniform mixing of the ingredients and dried on a fluidized bed dryer to maintain pellet structure. This advanced processing technology employs precise control over moisture, temperature, and processing speed, ensuring enhanced pellet quality and energy-efficient production.

## POTENTIAL APPLICATIONS

- Aquaculture feed producers seeking to eliminate the need for extensive research and development in creating a species-specific feed for Malabar snapper
- Malabar Snapper farmers in Singapore and Indo-Pacific region

## UNIQUE VALUE PROPOSITION

- **Species-Specific Nutrition:** Tailored to meet the dietary requirements of Malabar snapper, addressing gaps in existing generic marine fish feeds.
- **Proven Farm-Level Performance:** Validated under real farm conditions, demonstrating abilities in reducing production time by 17%; improving feed conversion ratio by 25%; and decreasing feed costs by 27%.
- **Sustainability:** Reduced reliance on fish meal by including cost-effective, locally available alternative protein sources.
- **High-Quality Manufacturing:** Advanced extrusion and drying processes ensure consistent pellet quality and nutritional value, enhancing feed efficiency.