

**TECH OFFER**

## Functional Instant Noodles Fortified with Shrimp Shells



### KEY INFORMATION

TECHNOLOGY CATEGORY:  
Sustainability - Food Security  
Foods - Ingredients

TECHNOLOGY READINESS LEVEL (TRL): **TRL7**  
COUNTRY: **THAILAND**  
ID NUMBER: **TO175038**

### OVERVIEW

This technology aims to tackle the food waste problem in the Thai agricultural sector. Shrimp shell was selected since it constituted a large portion of all crustacean shell waste. Many tons of shrimp shells are discarded daily. However, they contain high amounts of protein, calcium, and umami compounds. Thus, they can be used to fortify food products. Currently, the instant noodle market still has a limited number of healthy options. Therefore, there is a significant market opportunity to develop a low sodium and high protein instant noodle product.

### TECHNOLOGY FEATURES & SPECIFICATIONS

- Main ingredients: Wheat flour, Shrimp shells
- Production process uses baking instead of frying of noodles
- No more than 550 g of sodium per serving (WHO recommended amount)

- Up to 16 g of protein per serving (Roughly twice of most instant noodles)
- Light taste of shrimp which provides umami flavor without additives

## POTENTIAL APPLICATIONS

This product can be sold in both B2C and B2B.

B2C:

- Sold as a retail instant noodle product in supermarkets

B2B:

- Sold to food service and HoReCa companies to be incorporated in a noodle dish on their menu
- Able to formulate into other types of noodles e.g. spaghetti and ramen

## MARKET TRENDS & OPPORTUNITIES

In 2021, Mintel published a report showing a strong consumer shift towards convenience and health foods. As such, this product is targeted at students aged 17 to 23 looking for easy and healthy meals. According to a survey of Thai college students, most of them are aware of the high sodium and low nutritional value of instant noodles in the market and are looking for healthier alternatives. They also prioritize nutrition over prices, brands, and flavours. Therefore, this product's nutritional value and price point will appeal to them greatly. This product is expected to capture 10% of the market share for Thai functional instant noodles within 5 years of launch.

## UNIQUE VALUE PROPOSITION

- Lower sodium and higher protein content than normal instant noodles
- Natural umami flavor without additives
- Convenience, easy to prepare
- Affordable price point
- Sustainable production valorising food waste in line with Sustainable Development Goals