

TECH OFFER

Upcycling of Egg White Waste from Salted Egg Yolk Production



KEY INFORMATION

TECHNOLOGY CATEGORY:
[Sustainability - Food Security](#)
[Foods - Processes](#)
[Foods - Ingredients](#)

TECHNOLOGY READINESS LEVEL (TRL): **TRL8**
COUNTRY: **THAILAND**
ID NUMBER: **TO175009**

OVERVIEW

Egg white is a well-known super-food as an absolute protein with a complete essential amino acid profile, easily digestible, and no cholesterol. While salted egg yolks are a common ingredient in many traditional Asian dishes, the egg white is discarded as it has limited applications due to its high salt content.

This technology valorizes the salted egg white waste from the production of salted egg yolks into a tofu-like form that has many culinary applications. This is done using a patent-pending technique that is developed for desalination and reformation of egg white protein.

TECHNOLOGY FEATURES & SPECIFICATIONS

The process uses a thermal membrane technique to desalinate the egg white and then aggregate the egg white protein from the salted egg white sidestream. The current production volume of this product is 50 kg/day.

The egg white product is 100% natural with no additives. It comes in the form of a semi-gel "tofu". Per 100 g of tofu, it contains 54 kcal, and 307 mg of sodium with a 12.5% protein content wet weight basis. Its texture is firmer and more chewy than regular egg white.

POTENTIAL APPLICATIONS

- Suitable to be incorporated into culinary applications e.g. tofu basil stir fry, grilled tofu, salad/wrap topping
- Suitable for elderly, patients, fitness enthusiasts, flexitarians, health-conscious, people seeking convenience

MARKET TRENDS & OPPORTUNITIES

At present, the global market size of egg white protein is valued at roughly 20 billion USD. However, there is still a large amount of egg white being discarded each year, especially in the salted egg yolk industry. The estimated value of upcycling this waste stream is estimated to be valued at 170 M baht (4.7M USD) within 3 years.

UNIQUE VALUE PROPOSITION

This product is a healthy, tasty food with natural ingredients and no food additives that is also easy and convenient to eat. Its protein content is greater than regular egg white due to the concentration by the thermal membrane technology. This product is also easy to incorporate into culinary applications with a pleasant taste.