

Chula has researched and developed high-protein, gluten-free pasta noodles for gluten-intolerant health-lovers

27 January 2023 | News

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Noodle lovers, pasta is one popular item with its chewy yet soft texture and delicious taste. However, not everyone can fully enjoy pasta due to intolerance to gluten for some—a type of protein commonly found in wheat products, including pasta.

"Studies show that some consumers are intolerant to gluten and are unable to consume any foods containing the protein. Ingestion could lead to the dysfunction of multiple systems in the body. In the digestive system, for example, it could cause severe damage to the small intestine, reducing the ability to digest and absorb foods. We wanted to develop a gluten-free pasta product to serve the needs of this group of consumers, as well as those who care about their health," explained Associate Professor Dr. Kanitha Tananuwong, a lecturer at the Department of Food Technology, the Faculty of Science, Chulalongkorn University, head of the research team, of the background of the research and development of high-protein, gluten-free pasta from mung beans.

Mung Beans, the Solution for Gluten-Free Pasta

Although gluten-free pasta is now available in the market, Assoc. Prof. Dr. Kanitha said such products are made from rice flour, which causes the pasta to lose the chewiness that makes it unique. They also have lower protein content than wheat pasta.

Nowadays, many attempts have been made to heighten the quality of rice flour pasta by adding ingredients. To increase the protein, animal-based proteins like egg white and whey proteins or plant-based proteins like soybeans have been added. Different types of hydrocolloids have also been used to improve the texture and cooking quality, but such ingredients may need to be imported or are expensive.

"**Mung beans** are an alternative ingredient which has the appropriate qualities. The best part is they can increase protein to pasta and help with the texture and cooking quality, not to mention that they're easy to find here in Thailand," said Assoc. Prof. Dr. Kanitha.

"A benefit of collaborating with the private sector is our research has a chance to hit the shelves in the market. With a clear research problem, we can directly respond to the needs of the industrial sector. The funding company also contributed to a pasta extruder machine to create the pasta in our project," said Assoc. Prof. Dr. Kanitha. She also mentioned future collaborations with the private sector to refine the production of concentrated plant-based proteins to be used in making alternative protein drinks for the good health of everyone.