

Plastic mould for preparing shrimp analogue products

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The gradual disappearance of conventionally processed fish products and their emergence in new forms and styles are expected to be the future trend in fish consumption. Seafood analogue products in ready-to-cook form have the potential for generating consumer appeal in the domestic market owing to their ability to be modified into a variety of shapes with desirable flavours. Shrimp analogue products are fish meat based products that mimic shrimps, both in appearance and flavour. They are prepared using surimi as the main ingredient. Surimi is stabilized myofibrillar protein obtained from mechanically deboned fish flesh that is washed with water and blended with cryoprotectants. However, to prepare shrimp analogue products, there is a need for a food grade plastic mould that can withstand steaming temperature and retain the surimi gel in place during cooking so as to enable the gel to transform in to shrimp shaped product. In this context, a food grade plastic mould that can be used for preparing shrimp analogue products was designed and fabricated.

Low density polyethylene (LDPE) block (30 x 18 x 5 cm) was used as base for engraving shrimp shapes. *Litopenaeus vannamei*, the commonly available farmed shrimp was used as the model shrimp. The dimensions of the *L. vannamei* shrimp (40 count) were measured (Fig. 1a) and was used as the prototype for engraving on the LDPE block. Computer numerical control (CNC) router, a computer controlled cutting machine was used to engrave the shrimp shapes (two rows of four

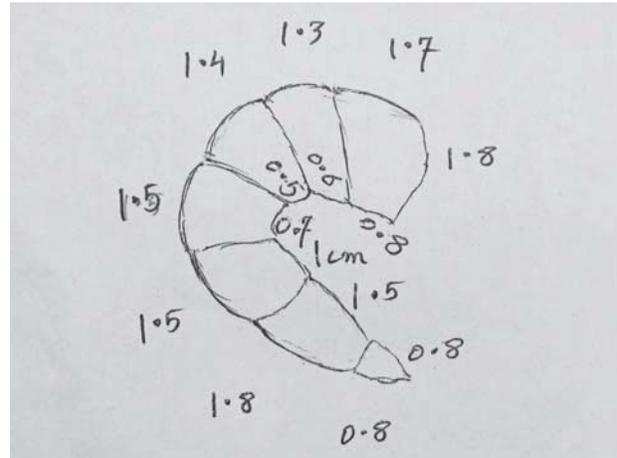


Fig. 1a. Outer dimensions of *L. vannamei* shrimp [Outer length (Convex) 9.7 cm, Inner length (Concave) 5.9 cm]

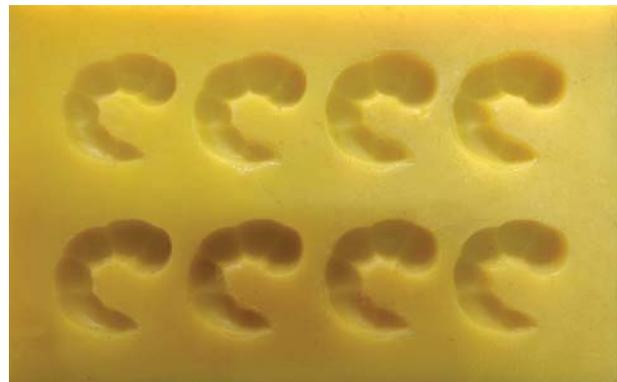


Fig. 1b. Plastic mould for shrimp analogues

shrimps) on the LDPE block (Fig. 1b).

The shrimp analogue mould is easy to clean as it has a non-absorbent and non-porous surface and can withstand steaming temperature. The mould finds use as template for making analogue shrimp products.