

TECH OFFER

A Rapid, Accurate And Portable Mud Crab Grading Tool



KEY INFORMATION

TECHNOLOGY CATEGORY:

Foods - Quality & Safety

Life Sciences - Agriculture & Aquaculture

TECHNOLOGY READINESS LEVEL (TRL): **TRL7**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO174534**

OVERVIEW

Chilli crab, pepper crab, butter crab are popular and iconic Southeast Asian crab dishes made from mud crabs. The lack of consistent supply of good meaty mud crabs is affecting seafood wholesalers and seafood restaurants. Some restaurants unintentionally use lean crabs and this eventually leads to negative feedback from the customers. The problem is more prominent in mud crabs compared to other crustacean species such as shrimps and lobsters.

Current methods adopted by the industry to grade mud crabs (meaty versus lean) are empirical and based on tacit knowledge with subjective judgement. The technology owner has developed a novel "first-of-its-kind" spectroscopy approach to determine the meatiness of mud crabs. This platform technology is non-invasive, simple, accurate, and portable for grading of mud crabs.

The technology owner is interested in seeking technology licensing collaborators.

TECHNOLOGY FEATURES & SPECIFICATIONS

This grading strategy is an example of a “data-based” spectroscopy approach as opposed to empirical approaches used by chefs and seafood traders in this region to determine crab meat quality. With this technology, mud crabs can be sorted into different grades. This tool helps classify and sort the meaty crabs from the lean crabs. Lean crabs can be further "fattened" before harvesting.

This approach has an accuracy of >95% in screening of *Scylla seratta* species. A proprietary software and grading strategy has been developed for this technology.

POTENTIAL APPLICATIONS

This technology can be applied for use in the following areas:

- Grading tool for mud crab traders
- Quality control of mud crab for restaurant owners
- Monitoring of growth to improve the industry practices in mangrove crab aquaculture and farming

The technology is further customisable to include other crustacean species e.g. lobsters.

UNIQUE VALUE PROPOSITION

The technology offers adopters a fast and efficient grading mechanism for mud crabs and it allows a more accurate reading in view of its data processing feature and sensitivity of the device.