

UMS conducting research on fish nutrition, feed development

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KOTA KINABALU: Universiti Malaysia Sabah (UMS) is currently conducting a research on fish nutrition and feed development, focusing on finding suitable alternative feed ingredients.

The research, carried out by the university's Borneo Marine Institute (IPMP), whose Deputy Director (Research and Innovation) is Associate Prof. Dr. Rossita Shapawi, was part of a concerted effort in making Sabah as a hub for the aquaculture industry in Malaysia.

In a statement here yesterday, she said aquaculture had been identified as a National Key Economic Area and the government has set a production target of over 700,000 metric tonnes under the 10th Malaysia Plan (RMK10).

Since capture fisheries production is declining, aquaculture is the only option available to meet demand for fish. Sabah, being the most diverse in marine resources, should lead in aquaculture research, especially high value marine species.

At present, Dr Rodssita said the industry was relying on the unsustainable approach which is using trash fish and expensive formulated feed.

Trash fish has been traditionally used as the main feed source for culture marine fish. It is preferred by most farmers due to its availability, compared to high price and limited supply of pelleted feed.

The low usage of pelleted feed is also due to inadequate information on the use of the feed and limited supply of weaned stock. To sustain the industry, efforts must be done to reduce the cost of aquaculture feed and the dependency of the industry on fish-based feed.

As such, Dr Rossita said she, along with other postdoctoral, postgraduate and undergraduate students, were conducting a research on fish nutrition and feed development with focus on finding suitable alternative feed ingredients.

She disclosed that she had developed several prototypes of aquaculture feed which were ready to be marketed with the concept of using reduced amount of fish-based ingredients, locally available and halal ingredients, that is, poultry by-product based feed for groupers, namely Garoupa-1TM and Garoupa-2TM and seaweed-based feed called KAPPA-PELLETTM for sea bass.

The Garoupa products won the Silver medal award in UMS Pereka Competition 2009.

The KAPPA-PELLETTM is an innovative feed formula, using seaweed meal (*kappaphycus alvarezii*) as a source of protein, vitamins and minerals. The



Dr Rossita showing a sample of one of the prototypes of aquaculture feed.

seaweed used is an antioxidant rich in essential nutrients such as fatty acids and contains carrageenan which can serve as binder and available locally. The KAPPA-PELLETTM won the gold medal award at UMS Pereka Competition 2013 and Silver medal at the national level BioInnovation Award 2013.

She disclosed that feed was the most expensive component in any aquaculture farm, where it involved more than 60% of the production cost.

The research is done at IPMB where it currently has two on-campus hatcheries, namely the Fish Hatchery and Crustacean Hatchery.

Dr Rossita expressed hope that they would be able to collaborate with aqua feed companies to commercialise the research products. More investigations

will be done on the potential of locally available ingredients to reduce our dependency on imported products.

To date, she said that Sabah has no aqua feed plant and they currently depend on feed imported from either Peninsular Malaysia or other countries.

She was also hoping that collaboration between the university and industry could be strengthened to realise the aim of making Sabah as a hub for the aquaculture industry in Malaysia.

The research received several grants such as from the Ministry of Education and the Ministry of Science and Technology, to carry out these researches in the field of aquaculture nutrition and feed development.