

# ‘Growing’ healthy fish

Stories by Michael Cheang

WE’VE all heard of organic vegetables and fruits, but what about organic *fish*? Is it possible to “grow” fish organically? If so, how would one know that the fish is actually organic?

In common usage, “organic food” refers to food produced without the use of synthetic chemical inputs such as fertiliser, pesticides, antibiotics and so on, and is also devoid of genetically modified organisms.



Johan Don feeding fish at the organic fish farming facility in Bagan Lalang, Selangor.

Protech Yu (Asia) Sdn Bhd aims to do just that – produce fish that meets those “organic” criteria. It does this by breeding both freshwater and marine fish in a controlled and regulated environment indoors, employing a method called Fish Protech Controlled Aquaculture System (FPCAS), owned by its parent company in Australia.

“The system creates a stress-free environment for fish and improves productivity and feed-to-fish conversion ratios, as well as makes for a less than 5% rate of mortality,” said Johan Don, managing director of Fish Protech and inventor of the system.

“Unlike other fish farms where the water can be contaminated by vermin and birds and the feed is not healthy for the fish, in an organic fish farm, every single step is controlled to make sure that the fish stays clean and chemical-free and free from diseases that you commonly get with other outdoor aquaculture methods.”

In Australia, fish sold under the Fish Protech brand commands a premium in marketplaces and is generally regarded as superior in taste and freshness. In fact, Protech Yu has been running an organic fish farm in Kuching, Sarawak, for three years, selling its products at prices higher than those sourced from conventional fish farms or the sea.

Following the success of the farm in Sarawak, Protech Yu is now expanding its technology to the peninsula. It has tied up with Maju Ikan Sdn Bhd to set up an organic fish farming facility in Bagan Lalang, Selangor, which will double up as a training centre for farmers.

Unlike conventional aquaculture farms which feature ponds, this fish farm is sited within a warehouse. Inside, it is hot and humid as there are no windows or doors, fans or air-conditioners. The facility is built like a quarantine station to protect it from every possible source of contamination. No birds, vermin and insects can get in. The air is filtered, and the condition and cleanliness of the water is strictly controlled. Visitors have to clean their shoes at the door with disinfectant before entering.

According to Johan, these precautions and safety measures are necessary to maintain the organic state of the fish.

With such stringent measures in place, it would seem that producing organic fish would be a complicated process but the opposite holds true.



In conventional fish farming, ponds are built close to lakes, rivers or coasts, exposing them to vermin, bird droppings and other contaminants.

The fish is grown in a series of tanks. Fish fingerlings are first kept in isolation tanks to ensure that they are disease-free. Next, they are moved to growing tanks (which contain pre-conditioned water that is continuously cleaned and disinfected with ultra violet light) where they will remain until they reach harvestable size.

The farm has eight growing tanks capable of producing up to 18 tonnes of fish a year. Each tank is divided into four sections each holding 120,000 litres of water.

As soon as one section is harvested, fresh fingerlings are put in, creating a conveyor belt that ensures a continuous supply of fish.

The system relies on a machine to remove solid waste and an air blower pumps pre-filtered air into the tanks. “The water flows naturally. In nature, everything goes down to the lowest level of energy. When we pump air into the water, it makes the water lighter and it rises, moving to create a current within the tank,” explained Johan. “As a result, the fish are always swimming against a current, resulting in them developing firmer flesh.”

To breed organic fish, the feed must surely be organic. “The feed we use is made of soy, cereal grain, barley, maize, vitamins and fish oil, with no chemicals or antibiotics included. In fact, the fish food can even be eaten by humans,” said aquaculturist John Mosig while popping a few pellets into his mouth.

The consultant to Protech Yu says the feed used has to be as close as possible to what it takes to make a fish grow. With ordinary poultry feed, which is usually only ground up and put together under pressure without being cooked first, you might only get one kg of fish for every 2kg of feed put in. With Protech Yu’s special feed however, farmers get one kg of fish for every one kg of feed.

“The ingredients are cooked first before being made into pellets. This makes them more digestible. That way, we can ensure that more of it stays inside the fish and less comes out,” said Mosig.

So, it seems that by controlling every single step of the fish’s growth, producing an organic fish IS possible after all. But are Malaysians prepared to pay a higher price for such produce?

Johan thinks so. “Once proper certification and labelling is in place, and people realise that the fish is superior to those reared in outdoor farms, there will definitely be a demand for organic fish.”

● For more information on organic fish farming, visit [www.Protech-Yu.com](http://www.Protech-Yu.com).



With marine fish tainted by sea pollutants, there is a growing demand for organic fish.