From waste to fertilisers

Biomax Technologies' innovation that turns organic waste into fertiliser saves time, space and promotes organic farming

By Hazel Tan

WHEN he was in the food trading business, chief executive officer of Biomax Technologies Sim Eng Tong (right) used to witness large amounts of food wastage in the food supply chain.

Motivated to convert what most people deem as "trash" into something valuable, Mr Sim worked with microchemist Dr Puah Chum Mok to invest in a technology to turn organic waste into organic fertiliser in the shortest time possible.

Today, this breakthrough technology, called Rapid Thermophilic Digestion System, converts organic waste into 100 per cent premium grade organic fertiliser at a high temperature within 24 hours. It is the fastest process so far in the organic waste treatment industry, he says.

'A miracle'

It took Mr Sim and Dr Puah five difficult years before they managed to develop enzymes for waste to fertiliser conversion. Dr Puah is currently chief technology officer and one of the co-founders of Biomax Technologies.

"We invested in our research and development (R&D) even before Biomax Technologies was officially founded in 2009. Being able to shorten the traditional treatment duration of a few months to only 24 hours was a miracle even to us," Mr Sim says.

For its breakthrough technology, Biomax Technologies was presented with an Achievement of Excellence in the Green Technology Award (GTA) category, at this year's Singapore Sustainability Awards.

A catalyst for organic farming

Biomax Technologies is focused on the R&D and commercialisation of enzyme-based green technologies.

The Rapid Thermophilic Digestion System converts a variety of organic wastes from agricultural, municipal and industrial sectors.

The wastes are loaded inside an enclosed digestor at 80 deg C and mixed with Biomax Technologies' proprietary BM1 enzymes. After 24 hours, 100 per cent pure pathogen-free organic fertiliser in powder form is obtained.

The technology offers an immediate solution for businesses with organic waste streams.

"Our technology offers a closed loop waste solution to relevant industrial players. By recycling their organic wastes into valuable fertiliser, this solution not only solves the waste problem, but also promotes sustainable farming with organic fertilisers," says Mr Sim.

As the process does not produce any pollutants and the resulting fertiliser is rich in nutrients, organic, odourless and pathogen-free, it is compliant with environmental regulations set by various countries.

Biomax Techologies' digestor. PHOTOS: BIOMAX

This helps Biomax Technologies to attract clients in Thailand, Malaysia, Australia, South Africa, Kenya, Turkey and Jamaica, whose businesses range from palm oil milling, poultry farm and slaughterhouse, to natural dye manufacturer, biogas operations and material recycling facility.

For investors, producing a commercially valuable quality organic fertiliser presents an alternate revenue channel, says Mr Sim.

"From day one, we were determined to look for new technologies that other businesses and the environment can benefit from," he says. "We are a firm believer of win-win-win situation whereby the customer, the environment and the company can benefit from innovation."