

UMS produces

Biofertiliser from oil palm EFB in 40 days

KOTA KINABALU: The Microbiology Research Group at the University Malaysia Sabah (UMS) Biotechnology Research Institute has developed a simple and easy way to produce biofertiliser from oil palm fibre empty fruit bunches (EFB) within 40 days.

Its senior researcher, Dr Md Shafiquzzaman Siddiquee, and his post-graduate student, Nur Shafawati Sali, had conducted the research on converting oil palm industry waste to the biofertiliser.

"The application of biofertiliser in nursery and field trials found, among others, successful enhancement of plant growth, root development, an increase in plant branches, inflorescences and yield production.

"Huge amounts of waste products are creating lots of environmental problems and ecosystem degradation, while affecting the health of communities, with high disposal costs annually, Md Shafiquzzaman said here. He said composting was an alternative way of transforming the bulky biomass into a valuable, manageable product, for use on plantations or as a market product.

"In this respect, the production of palm oil is a key agricultural activity in Malaysia, and the country has become a top producer of the product in the world, while drawing large revenue from it.

"Malaysia oil palm plantations account for about 41 per cent of the world's palm oil production and occupy 4.5 million hectares of land. Oil palm fibres (trunks, fronds and empty fruit bunches) are considered major waste products," he added.

He said using the species specific-strain of *Trichoderma* in composting has widened, not only as a biological control agent but for accelerating rapid composting, the control of plant diseases, a strong competitive effect on space and nutrients, the ability to degrade woody materials, while increasing the production yield, and as biocontrol, biopesticides, bioherbicides, enzyme and toxin producers.

Md Shafiquzzaman said the specific-strain of *Trichoderma* used as a biofertiliser had many superior properties to that of the powder-based products presently available in the market.

He noted that the use of conventional methods of composting is not only time consuming but also requires better skills and experienced personnel.

"As we enter a new era of disease control, especially those linked with waste management strategies, composting is likely to be the key element for sustainable maintenance of soil health and fertility, and zero burning of oil palm waste," he said.

Md Shafiquzzaman said the EFB biofertiliser compost is an organic, ecofriendly, global application and has high market demand. "The UMS Microbiology Research Group is seeking searching potential local companies who are interested in developing the composting process for commercialisation in the large scale application of agricultural crops," he added.