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MALAYSIA: Pioneer bioplastics pilot plant is operational

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Malaysia's pioneer Bioplastics Pilot Plant that enables the production of versatile biodegradable plastic materials from palm oil is now operational.

The fully automated Polyhydroxylalkanoate (PHA) Bioplastics plant was designed and built through the partnership between SIRIM Bhd, Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM), and the Massachusetts Institute of Technology (MIT), United States.

The bioreactor facilities and integrated manufacturing process of the plant is able to produce various options of PHA materials from crude palm kernel oil and palm oil mill effluent.

The plant, located in Shah Alam,Selangor, will be charting a new milestone in the country's efforts to provide an alternative to non-biodegradable petroleum-based plastic.

In a statement, SIRIM said the plant was launched on 12 July by Minister of Science, Technology and Innovation, Datuk Seri Dr. Maximus Johnity Ongkili.

Also present at the event was SIRIM's Vice President of Research and Development Division, Dr. Zainal Abidin Mohd Yusof as well as project leaders from MIT, USM, and UPM.

"With a capacity of 2,000 litres, the plant is linked to the waste system and specially designed to remediate the effluent of the pilot plant," said Maximus during the launch.

He also expressed confidence that the establishment of the plant would further boost the production of Malaysia's palm oil as it will become an important feedstock for biodegradable plastic in future.

"The production cost of bioplastic in the global market, for instance in Brazil in which sugar cane is being used as the carbon source, is at least RM28 per kilogram compared to RM6 to RM7 using palm kernel oil," he said.

He said the huge gap in pricing, will definitely help local companies which are currently in collaborations and joint ventures with established overseas companies in the bioplastic industry, to bring down production costs.

Meanwhile, Zainal Abidin said the plant was totally designed and built by local engineers, and fabrication of the reactors meets the Malaysian authority requirements.

"Through the establishment of the pilot plant, SIRIM is ready to provide its services in designing bioreactor or pilot plant design for other projects to other institutions or commercial companies in the future.

"The success is also be proof of capability to other countries, that Malaysia is able to market its own home-grown technology on the global market, apart from developing and scaling up plants to commercial levels," he added.

The bioplastics plant is vital as it will produce non-toxic products which are in great demand in the food and packaging industry, agriculture and horticulture, medical, toys and textile industries.

There will also be more aplications for bioplastics in the automotive and elctronic industries in the near future.

(Syed Rashid Ali, Karachi, Pakistan)

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