

PRODUCING ENVIRONMENTALLY FRIENDLY PLASTIC WILL BECOME AFFORDABLE

According to Don Trong-ming, a professor at TKU Department of Chemical and Materials Engineering, producing biodegradable plastics inexpensively is entirely possible in the near future. Thanks to a new technology developed by him and 10 other researchers from various universities in Taiwan, production of such an environmentally friendly plastic will be easy which in turn will make it less costly to produce in mass.

This innovative technology allows a new kind of plastic (polyhydroxybutyrate-valerate, PHBV) to be made from the bacterial fermentation of starch. This material has at least three great advantages, according to Dr. Do. The first, he said, is the raw material. All one needs is a kind of bacteria that is known as *Haloferax mediterranei* that is found in the ocean. It is easy and very economical to cultivate as it feeds on starch such as rice bran and soy milk. Give it a fermentation tray and a room temperature, it will grow quickly. Secondly, Do added, there is hardly any pollution during the production as such bacteria lives in highly saturated saltwater that is hostile to other bacteria so there is no worry of contamination. Finally, plastics made from this kind of microorganisms can be degraded by other microorganism into water and carbon dioxide completely in just three months time, Do pointed out.

The market research conducted by Do and his team reveals that there will be a great demand for biodegradable plastics with handsome profitability. However, current technology had made their production rather costly so manufacturers have continued producing cheaper but environmentally harmful plastics. With their invention, these are all going to change. Plastic will no longer be the “dirty word” in our future. (~Ying-hsueh Hu)

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