Industrial Engineering UB Student Win INOTEK Environmental Sector

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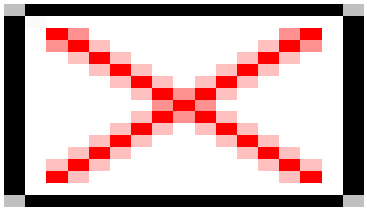

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Student of Industrial Engineering (TI) Department of Faculty of Engineering Universitas Brawijaya (FT-UB) succeeded to become the first winner in Technology Innovation Competition Malang City (INOTEK) 2017 in Environmental Sector.

In the competition organized by the Planning, Research and Development (Barenlitbang) of Malang, TI Department is represented by Biodegradable Plastic from Rumen Waste (B-PLASTRUE) Team. The B-PLASTRUE team consists of Diezka Ahmad Al Hafidh, Kevin Aditya Pratama, Syaila Salsabila Faradis, and Naila El'Arisie.

The B-PLASTRUE team examines the development of environmentally friendly plastic (bioplastic) made from rumen cattle. Cow rumen is selected to be a bioplastic material because as one of the organic materials that can decompose due to the high content of cellulose and fiber.

Because of its high fiber content, cow rumen can also be used for natural animal feed mixes. But its use is still not optimal. Rumen of cattle originating from Animal Slaughterhouses (RPH) usually just dumped into the nearest river and causes contamination.

"From our team's literature study, one of the requirements of the ingredient composition used for the manufacture of bioplastics is the high fiber content. That is what underlies our team to examine the development of cow rumen as an alternative to making bioplastics," Diezka, the team leader said, Wednesday (15/06).

Another team member, Kevin, said that bioplastics from rumen cattle can decompose in open space, both in soil and water. "Not only can decompose, rumen cow waste can also fertilize the soil," said Surabaya born student.

The process of making bioplastics with cow rumen materials includes fermentation of cow rumen contents, drying fermented products, refining dried fermented products, and processing cow rumen mixtures with natural plastic and resin making materials.

"When finished, bioplastic samples will be tested by tensile strength and biodegradability tests in the laboratory," said one of the team members, Syaila.

Naila, another team member, hopes that B-PLASTRUE can solve the problem of livestock waste and reduce contamination due to hard-to-degrade synthetic plastics.

"In fact, plastic consumption in Indonesia is quite high. Based on statistical data of domestic garbage Indonesia, plastic consumption in Indonesia reached 5.4 million tons/year," she added.

The INOTEK competition series runs from March to April for registration of participants.

The winning works will be displayed at the APEKSI Exhibition of the Association of Indonesian Municipalities (APEKSI) which took place July 10, 2017. Subsequently, the INOTEK Awards and Exhibitions will be held on August 10, 2017, together with the National Technology Day (HARTEKNAS). (**and/Humas UB**)