

UGM Students Develop Automatic Irrigation System for Oil Palms

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Universitas Gadjah Mada (UGM) students have developed automatic irrigation system for oil palm plantations. The tool has won the *Agribiz Challenge* competition last December 2016.

The system called as “AiRi” won the first place in the on farm category, beating hundred other competitors. The system has been developed by Andrianto Ansari from Faculty of Agricultural Technology in collaboration with several alumni: Widagdo Purbowaskito, Yustafat Fawzi, and Dualim Atma as well as Muhammad Ghufon Mustaqim from Faculty of Social and Political Sciences who all joined the Merapi Tani Instrument (Mertani) Indonesia group.

“AiRi is an automatisisation technology for irrigation of oil palm breeding that combines hardware and software in real time,” said Andrianto on Wednesday (4/1).

Andrianto explained that the system was developed since 2012 out of concerns that Indonesian farmers still do traditional irrigation that is ineffective because it takes plenty of resources.



This automatization technology is expected to minimise the costs and labour as well as optimise the growth of plants and save water.

The technology uses sensors for nutrition, soil humidity, and micro climate based on wireless networks. It also comes up with solar panels for energy sources.

“This tool works automatically when the plant needs water,” said the man born in Sedayu, Bantul regency.

AiRi works by automatically distributing irrigation water when the plant needs water through wilting point approach. The irrigation will stop automatically when the soil reaches the field capacity by reading the humidity scores.

“As such, the irrigation automatization system will save the water,” he said.

AiRi has been applied in some places, including Palm Oil Research Centre (PPKS) in Medan, North Sumatera as well as tobacco plantations of PTPN X in Klaten, Central Java.

The system now works using dripping system. In the future the students will develop it into sprinkler system for optimal irrigation.

“We’re making developments to the tool so that it works better and can be mass produced for the society,” he said.

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