

UGM Researchers Increase Patchouli Essential Oil Production in Kulonprogo

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Researcher from Chemistry Department UGM, Prof. Dra Wega Trisunaryanti MS., M.Eng., Ph.D., found a solution to the problem of drying patchouli leaves during the rainy season in Gerbosari village, Samigaluh district, Kulon Progo regency.

The district has been named by the government as Yogyakarta's Centre of Essential Oils. The area produced as much as 2 - 2.5 tonnes of wet leaves in a harvest. Currently, however, the local people of Gerbosari dry the leaves of patchouli under the sun. Therefore, essential oils makers in the village found it difficult to meet the high demands of patchouli raw material during the rainy season. In this season the essential oil production is hence dominated by clove essential oils.

Bambang who chairs a group of essential oils makers said essential oils from Samigaluh were wanted by buyers. "The main problem of the farmers here is the reduced amount of patchouli leaves during the rainy season, which impacts on the essential oil production," he said.

Other problems are the distillation machine which is used in return with distilling clove oils, hence cleaning of the tool has yet to be done time after time. The patchouli oils will also get contaminated

by the clove oils, which decreases the quality.

“We develop patchouli leaves drying technology to improve the production of the essential oils,” said Prof. Wega Trisunaryanti. Assisted by colleagues, Prof. Karna Wijaya, M.Eng., Chemistry lecturer, and Dr. Chotimah, Physics lecturer, they devised a technology to solve the problem. Students Satriyo and Widi also assisted in the appropriate technology based community service project that is funded with grants from Research, Technology and Higher Education Ministry.

“The principle of the drying technology is by using the remaining heat of the fuel for the distillation of both patchouli and clove oils. It is channeled through a pipe to a drying house. The hot dry air will heat the air in the drying house which has been filled with over 1 tonne of patchouli leaves,” said Chotimah.

Karna Wijaya added the technology was expected to boost the MSMEs in producing patchouli essential oils. “Besides, we will initiate Academic-Business-Government networks that orientates towards community empowerment. Hopefully, this will enhance our vision and mission in supporting the achievement of the *Sustainable Development Goals* (SDGs), particularly goal no. 8 which is *Decent Work and Economic Growth*, and goal no. 9 which is *Infrastructure, Industry and Innovation*,” he concluded.

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