

## UGM Inaugurates Couples as Professors

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Universitas Gadjah Mada (UGM) has inaugurated Prof. Dr. Ir. Supriyanto, M.S., and Prof. Dr. Ir. Agnes Murdiati, M.S., as professors. Both are husband and wife who teach at Faculty of Agricultural Technology. The inauguration was done at Senate Hall UGM on Tuesday (26/11) which also marks their 41th wedding anniversary.

Prof. Supriyanto delivered his professorship inauguration entitled *Processing Development of Cocoa Seeds and New Perspective of Cocoa as Source of Natural Antioxidant*. He said cocoa seeds have the potential as natural antioxidant as they contain high polyphenol compounds. But these may decrease during processing.

“During drying process at 55°C for 24 hours, polyphenol loss occurs at over 80%. During 48 hours-drying, over 95% will get lost,” said the Head of Engineering Lab at the Faculty.

Supriyanto explained the total loss is higher in the frying process. So, efforts are needed to maintain the compound. Research has been done using cocoa seeds which are not fermented or half-fermented, or deactivating the polyphenol oxidase enzyme through heating by steaming or using microwave energy.



Supriyanto said the cocoa seed fermentation was still needed to produce compounds that would form the chocolate flavour and aroma. But to maintain the polyphenol, the fermentation time can be reduced. Meanwhile, to maintain the consistent quality can be done by fermentation-like incubation at medium and big industries.

Meanwhile, Prof. Agnes for her professorship inauguration delivered a speech entitled *Roles of Legumes in Enhancing National Food Security*. She said that legumes have a strategic role in improving food and nutrition security of society. Legumes are vegetable food sources rich in proteins and fats. They are also sources of calories and essential fatty acid.

“Indonesia is rich in legumes, including non-oilseed legumes, but they are not yet optimally utilised,” she said.

Agnes described the utilisation has not been optimal due to many reasons. One of the legumes is jack bean (*Canavalia ensiformis*) with peel that is thick and hard which is difficult to peel. Jack bean also has high HCN anti-nutritional compound which makes it less tasty, even hazardous.

“Utilisation has not been optimal while the productivity of the jack bean in Indonesia is 7 tons/ha in average with potential outcome of 12 tons/ha, and this produces green manure of 40-50 tons/ha,” she explained.

Agnes said research into jack bean has been done intensively at the laboratory since 2013, for example to remove the HCN toxic compound, removing the smell, increasing protein quality, contents of food fibres that are dissolved in water, and resistant starch.

“The research resulted that removing the HCN compound and anti-nutritional compound can be done during the processing of the legume,” she said.

Agnes said jack bean has benefits on the health and it can be processed into many products with good quality and proteins. She hoped this could replace many forms of soybean products and reduce soybean imports.

“Now we need to convince the people to expand the cultivation to non-oilseed legumes and socialise their products so as to cover Indonesia’s shortcomings in soybean products,” she concluded.

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