



HKU and Kyoto U reveal a new strategy to enhance the efficiency of cereal straw for biofuel production

April 27, 2017

Straw is commonly used for feeding animals, burning, baling, etc. As one of the “Three Canton Treasures”, straw can actually be used as a raw material to produce biofuel. With an increasing demand on biofuel in recent years, cellulose from non-edible plant materials (e.g. sugarcane leaves, corn stalks, rice straw) has been used as raw materials for bioethanol production. However, since cellulose is crosslinked with lignin in plant cell walls, it is very difficult and inefficient to release glucose from cellulose.

A collaborative research effort by the University of Hong Kong (HKU) and Kyoto University (Kyoto U) has revealed a new strategy to allow cellulose in rice straw to release its fermentable sugar more efficiently. The yield of glucose was increased by 37% without any chemical treatment. This research breakthrough was recently published in a notable plant science journal *Plant Physiology*.

HKU plant biochemist Dr Clive Lo Sze-chung and Dr Lydia Lam Pui-ying will meet the media to elaborate how their rice straw can be a more efficient raw material for biofuel production.

*****For those who attend the briefing, please kindly arrange to have the article published from 6 a.m. on May 4 (next Thursday). *****

Details of the media briefing are as follows:

Date: May 2, 2017 (next Tuesday)

Time/Activity/Venue:

10:50 Gathering on G/F, Kadoorie Biological Sciences Building, Main Campus, HKU, Pokfulam, HKU
([Map](#))

11:00 Photo taking at Green House, 9.F, Kadoorie Biological Sciences Building

11:15 Press briefing at Conference Room, Room 6N-11, Kadoorie Biological Sciences Building

Spokespersons:

Dr Clive Lo Sze-chung, Associate Professor, School of Biological Sciences, HKU

Dr Lydia Lam Pui-ying, Research Assistant, School of Biological Sciences, HKU

Dr Clive Lo is an Associate Professor in the School of Biological Sciences, HKU. His laboratory has been elucidating biosynthesis pathways of flavonoids in cereal crops for applications in metabolic engineering. His research projects are supported by the Research Grants Council of Hong Kong.

Dr Lydia Lam joined the Summer Science Institute during her secondary school years and was then inspired and determined to study Biotechnology. She was admitted to HKU in 2008 and received her Bachelor of Science (First Class Honours) Degree in Biotechnology. Afterwards, she was awarded the highly competitive Hong Kong PhD Fellowship and completed her PhD study in December 2016.

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