

RESEARCH

Bringing agriculture into the home

"AGRICULTURE is not necessarily on the farm, it can also be at home".

With this in mind and as a solution to the residents of flats or apartments who would like to grow their own vegetables and herbs, Universiti Putra Malaysia (UPM) researchers have come up with the "dekoponix rack" and "home deco".

Not only does it not require soil, the technology also meant that it would take up little space while bringing in greenery and fresh air into the house.

"With the empty weight of about 2.5kg, it is easy to carry to be installed, while the height of 1.5m after the four-level shelves are installed is suitable for the home.

**PROFESSOR DR
KHAIRUL AIDIL AZLIN
ABD RAHMAN**

The dekoponix rack is also a form of interior decoration and can be used to separate the dining room and the kitchen areas.

The rack was developed in November 2014 by a group of researchers led by Professor Dr Khairul Aidil Azlin Abd Rahman of the Department of Industrial Design, Faculty of Design and Architecture, UPM. The innovative prototype model was ready by the end of last year.

Khairul said that it would be commercialised in the near future at a price of between RM700 and RM800 per set with starter kits including fertilisers, seeds, pumps, coupe and sponge.

He said the hydroponic method does not require detailed care but can still grow clean and organic produce. Vegetables that can be grown through this method are lettuce, kale, spinach and various herbs.

He said that the technology adopted a modular system that is easily installed and dismantled by the user within five minutes.

"With the empty weight of about 2.5kg, it is easy to carry to be installed, while the height of 1.5m after the four-level shelves are installed

is suitable for the home. Extra racks can also be added.

He said the product is easy to maintain and continuously used the water cycle that only needed to be added once in two weeks.

"It uses a system of 'deep flow' or sink flow of hydroponic techniques with water constantly spinning and roots submerged in water flowing in the rack."

Khairul said among the researchers and students involved in the project are Dr Mohd Shahrizal Doe, Dekoponik Sdn Bhd director Mohd Hafiz Talib and Rusli Mohd Zulkarnain.

The innovation won a silver medal at the Invention and Innovation Research (PRPI) UPM in 2016 and was a finalist in the National Intellectual Property Award 2016.

Khairul said that home deco takes on the concept of decoration using hydroponics systems in a container made of ceramics coloured with a variety of interesting patterns. He said the technology could form part of the decoration in the kitchen and on the dining table, with vegetables and herbs being directly picked when needed. **Azman Zakaria**



Professor Dr Khairul Aidil Azlin showing the dekoponix rack and home deco.