

Sorghum sugar signals sweet success

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The research aims to extract a high-value “healthy” sugar from sorghum

A joint project between Queensland and Chinese researchers to derive sugars from sorghum could result in extraordinary social, economic and environmental benefits for future generations.

University of Queensland lead researcher Dr Luguang Wu said the project had the potential to revitalise the sugar industry, improve energy security, reduce greenhouse emissions and improve health outcomes by reducing tooth decay and assisting in diabetes management.

The collaborative research project between UQ's School of Agriculture and Food Sciences and the prestigious Chinese Academy of Sciences

(CAS) has been awarded one of only two grants available from the Queensland-Chinese Academy of Sciences (Q-CAS) Collaborative Science fund.

Queensland Science, Information Technology, Innovation and the Arts Minister Mr Ian Walker presented the award to the researchers at a ceremony this week.

The project, Sweet sorghum for valuable sugars, aims to produce a high-value "healthy" sugar by using [sweet sorghum](#) as a biofactory.

"The healthy sugar, isosmaltulose (IM), has low glycaemic and insulin indices which means when added to food it releases energy for the body slowly over time," Dr Wu said.

"The slow release of energy may have a range of health benefits including preventing the onset of diabetes, reducing [tooth decay](#), improving brain activity and reducing the incidence of obesity."

Sweet sorghum is an energy-rich (biomass) plant adapted to the hot semi-arid tropics which can produce sugar levels equivalent to sugarcane but in a shorter time frame and with lower water usage.

In addition to the potential health benefits of the sugar in sweet sorghum, the higher yield with lower water usage could lead to more efficient farming and environmental management, with the crop generating 10-15 tonnes of sugar per hectare.

The collaborative research project aims to identify elite sweet sorghum lines with high and stable sugar production and develop them into plants which can be cultivated on a large scale.

The engineered plants will be tested under a wide range of cultivation

areas of marginal land in Queensland and China.

By manufacturing more productive, globally competitive, high quality, safe and sustainable [sugar](#) at a lower cost, the benefits of IM in functional foods can be extended to a far greater proportion of the population while protecting the environment.

Provided by University of Queensland

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