

Biorefineries to create a profitable future for agriculture in Australia

Sugar millers and growers are expected to benefit from a new research project as part of the Rural Research and Development for Profit Programme.

Key Focus Area

Product diversification and value addition

Project name

A profitable future for Australian agriculture: biorefineries for higher-value animal feeds, chemicals and fuels

Project number

2015/902

Project providers

SRA lead with range of partners including QUT and other RDCs

Project end date

2018

SRA has been successful in securing funding for the new collaborative project that would engage leading scientists to develop technology that would convert agricultural and forestry by-products into higher value commodities.

This is an exciting and collaborative project that will see SRA as the lead agency working with Forest and Wood Products Australia Limited, the Cotton Research and Development Corporation, Australia Pork Limited, and the Queensland University of Technology.

'The project also has support from NSW Department of Primary Industries as well as industry support from Southern Oil Refining and AgriFuels Ltd,' according to SRA CEO, Neil Fisher.

'We know that in many agricultural and forestry production systems, there is significant biomass created in the production system that is of low value compared to the core commodity being produced,' Mr Fisher said. 'This project will look at how we can add value to products such as cane mulch and bagasse, cotton stalks and trash material, and forestry by-product.'

'The project will investigate using biorefinery methods to convert low value material into higher value products such as animal feed, fuels, fibre, and chemicals.'

The project will run over three years and is being funded with \$3.09 million in Federal Government grant funds and a matching commitment from the partner organisations.

For the project, QUT research will investigate how to develop a more profitable future for Australian agriculture by transforming farming by-products into valuable new products.

The project will broadly address bioproduct opportunities across various agricultural sectors with other key agricultural industries.

A recent study by Deloitte Access Economics and Corelli Consulting, prepared for QUT, found the establishment of rural and regional biorefineries could generate more than \$21.5 billion in revenue over the next 20 years in Queensland alone, creating 6,640 full-time jobs.

Associate Professor Ian O'Hara, from QUT's Centre for Tropical Crops and Biocommodities (CTCB), said the project would develop and demonstrate a range of innovative biorefinery technologies that will add value to primary products and by-products.

'The project will develop new technologies including enhanced animal feeds, chemicals from crops and advanced biofuels from

agricultural feedstocks,' Professor O'Hara said. 'Creating biorefineries which generate higher value bioproducts from waste products is one of the keys to creating a profitable future for Australian agriculture.'

Professor O'Hara said the project would create new revenue opportunities. 'At the same time it creates opportunities for those same industries to reduce input costs, for example through local production of lower cost animal feeds and fuels,' he said.

'This project will show that Australia has a multi-billion dollar opportunity to establish a new manufacturing industry based on biorefineries that will create thousands of jobs.'

Professor O'Hara said QUT is well placed to undertake the project as it has significant research and infrastructure capability including the Mackay Renewable Biocommodities Pilot Plant. Based in the sugar hub of Mackay in Queensland, the pilot plant allows new technologies to more rapidly transition from laboratory to commercial scale.

Above: Associate Professor Ian O'Hara says Australia has a 'multi-billion dollar opportunity' to establish a new manufacturing industry based on biorefineries. *Picture: Erika Fish, QUT Media.*