Development of integrated sugarcane biorefineries with multidisciplinary technology

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ABSTRACT:

Agriculture must continually adapt to remain competitive in an environment of rising production costs, climate variability, pests and disease, compliance costs, and changing global patterns of production and consumption. One of the key pathways to a profitable future for agriculture is to create biorefineries which generate higher value bioproducts from primary products, off-specification primary products, low value by-products, and waste streams. The emerging global bioeconomy is creating new market opportunities for agricultural producers and processors, and will underpin the future viability of existing crop products and supply chains.

Queensland University of Technology (QUT)researchers are leading a consortium of industry and academic partners to develop the technologies needed to convert sugarcane by-products and other agricultural feedstocks into new value-added animal feeds, advanced fuels, novel fibres, and nutritional products. In addition, QUT is building value chain knowledge and the human and organisational capacity essential to capture biorefinery opportunities for Australian agriculture industry.

The presentation will describe current projects developing bioproduct opportunities for Australian agricultural participants in the sugar, cotton, forestry, and pork industries, with a primary focus on development of integrated biorefinery facilities based upon sugarcane production. In addition to diversifying revenue, these projects will create opportunities for these same industries to reduce input cost.

Ultimately, the development of technologies, knowledge, and capacity to increase revenue from existing agricultural, forestry, and animal industries will deliver increased productivity and profitability for primary producers.

Key words: fuels, chemicals, biorefinery, feed, fibre