The power of bananas revealed

January 14 2008

The thought of powering your house on banana waste may sound a little unrealistic, but, two years ago, UQ researcher, Associate Professor Bill Clarke, proved it was a possibility.

Between 2004 and 2005 Dr Clarke, supported by the Queendland Government through the Qld Sustainable Energy Innovation Fund (QSEIF), Ergon Energy, and The Australian Banana Growers' Association Inc., uncovered the potential to produce energy from banana waste.

Growcom, a peak horticulture organisation, has recently transformed Dr Clarke's research into a commercial scale project in North Queensland, a location where bananas are far from scarce.

This venture is supported by an additional QSEIF grant.

“We demonstrated in 2004-2005 that waste bananas and stalk material within the banana bunch are a great source of methane,” Dr Clarke said.

“There are no technical problems with producing methane from bananas.

“However, for the process to be economically viable, we need to develop a cheaper and simpler digester compared to those that are currently used for organic waste in Europe.”

While extracting methane from bananas is technically possible, it is no simple task.

“Methane is produced by loading the bananas into an air tight reactor, with careful control of pH and, ideally, temperature.

“The Australian Banana Growers' Association have built a pilot scale bladder reactor which sits in an excavation in the ground.

“The bladder contains the bananas and biogas,” Dr Clarke said.

Biogas is the combination of methane and carbon dioxide and is the name given to fuel derived from organic matter.

It is the biogas produced from bananas which could potentially be used as an alternative energy source, Dr Clarke said.

“The biogas can either be stored at moderate pressure, possibly for use as a transportation fuel, or directed to a gas engine to generate electricity, as is currently done in Australia at a number of landfills.”

Dr Clarke has taken on an advisory role with the Growcom plant, and has provided design and operational advice.

Source: University of Queensland