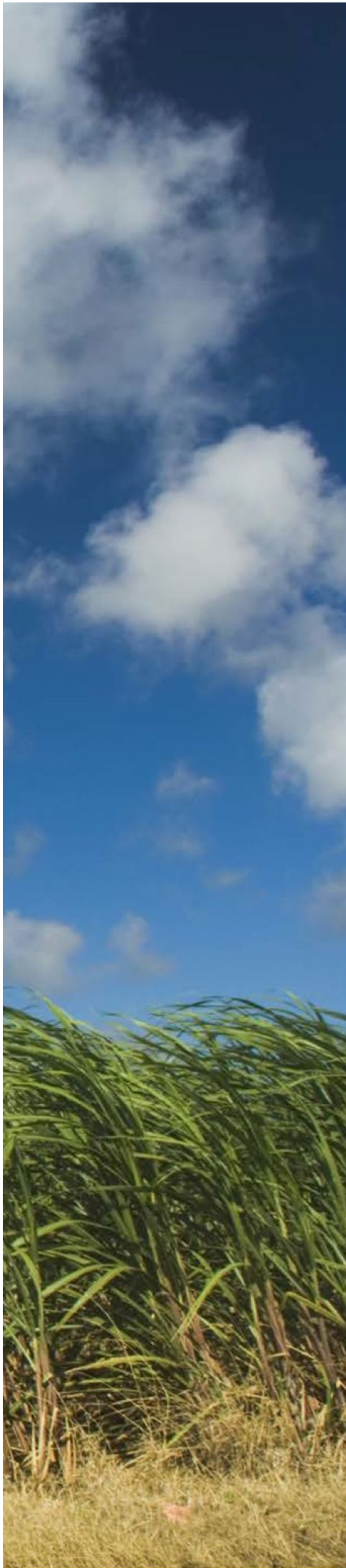


# A field of opportunity

Sunshine Sugar is rolling out a healthier new sugar, an Australian innovation that is natural, low GI and can be used in commercial recipes, writes Amanda Bryan.





**A NEW** Australian innovation in sugar processing technology that promises to help tackle obesity is opening up new opportunities in low glycaemic index (GI) sugar for manufacturers along the food and beverage supply chain.

The first to embrace the opportunity is NSW company Sunshine Sugar, which has partnered up with three suppliers to produce the new sugar called Nucane.

Sunshine Sugar, a partnership between the grower-owned NSW Sugar Milling Co-operative and the Australian family-owned agribusiness Manildra group, has partnered with Nucane’s developer, Nutrition Innovation, to manufacture the product.

The sugar producer was in a unique position, as it operates the only food-grade raw sugar mill in Australia, says Sunshine Sugar’s CEO Chris Connors.

The problem with traditional raw sugar as a low GI ingredient in commercial applications is the consistency and wetness, according to Connors. Nucane can be used as a 1-for-1 swap for white refined sugar or alternative sweeteners in branded recipes.

As well as being low in GI, Nucane is naturally high in antioxidants, and is a dry product so it will flow in food manufacturing processes like white refined sugar.

Nucane can be used in categories as diverse as beverages, fruit juice, canned products, flavoured milks, soy milk, yoghurts, breads, baked goods, ice-cream, confectionery, chocolates, and sauces.

New technology and processes supplied by FOSS and Schneider Electric (see box) were created to standardise the less refined product to enable it be used in commercial quantities.

“As we already have a food-grade raw sugar factory, installation was not an issue for us given we had the expertise in the use of NIR (Near Infrared),” Connors says. “It took time to get the

instruments in, and we still have to do a little more calibration, but as soon as we start crushing this month, we will start making Sunshine Sugar low GI product, NuCane.”

Because it is less refined, Nucane also saves energy and

according to Connors, and also, as a co-operative, growers are in line to profit from the process.

“This will be great for Australia, our local economy, and our growers. In the longer term, if it goes the way we want it to, we expect to have other

“There is no reason why Nucane cannot replace the majority of the world’s white refined sugar in a relatively short period of time. No other sugar product can achieve this.”

water, which is another bonus for the mill, which was the first in the world to receive Bonsucro certification for sustainability across its growing, milling and refining operations.

Sunshine Sugar is keen to add to its credentials the production of a healthier sweetener,

raw sugar millers in the production line as well.

“Nucane is a premium product so when we do start to make a profit, a lot will be directed back to the growers. The agricultural community in Australia is rarely looked after. The sale of Nucane will return an increased price

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## ★ THE FORMULA

### SWEET COLLABORATION

The equipment suppliers partnering globally on Nucane are FOSS, which is providing the calibration instrumentation, and Schneider Electric, which is providing the systems integration for the technology to be implemented within mills.

The collaboration and input from each of the three partners enables the innovation. FOSS is the supplier of NIR (Near Infrared) instrument to support the understanding of the sugar composition required to manufacture Nucane.

Schneider Electric scales the intricate process through the use of the latest automation technologies and industrial software.

Sunshine Sugar brings the knowledge and expertise in the practical use of NIR in the processes.

The process measures the contents of the cane sugar in parts per million, and manages production of the raw sugar to ensure the exact amounts of the polyphenols and organics needed to promote the Low-GI effect.

This enables the creation of a more natural, less processed product that is to specification and consistent everytime.

Additionally, the process typically reduces water waste and consumes less electricity, creating significant efficiencies in production.

Moreover, the Nucane production process can be applied to most sugar mills worldwide.

"The Schneider and FOSS solution sits on top to do the finite control. It integrates with our own automation solutions, and those of other vendors as well," Schneider Electric APAC Consumer Packaged Goods segment director Craig Roseman says.

The digitisation of the operations combined with software to analyse production data in real time, enables a new-found production accuracy, Roseman says.



back to the business and subsequently the grower.

"Our intent in the pricing is to charge an increased raw premium so that the growers get a better price straight away," Connors says.

The sugar company has made a strong push into diversification in sugar manufacturing and in alternative uses of sugar cane, and the production of Nucane fits neatly into that strategy.

according to Andrew Higgs, Nutrition Innovation's Australia and New Zealand country manager, and is currently being tested by 40 customers around the world, including large supermarket chains.

Nucane fits well into the needs of food companies who are under pressure to change their recipes and move away from artificial ingredients, Higgs says.

One of the companies trialling Nucane is Heritage Chocolates, which has created a low GI chocolate product (pictured). A private label retail sugar product is also on the cards, and expected to be on-shelf by Q3.

Nutrition Innovation is a technology company that has developed both the Nucane product and also the specific process for cost-effectively manufacturing and it. The company was founded by Monash University Associate

Professor Dr David Kannar. Nutrition Innovation's plan is to partner with mills such as Sunshine Sugar, and its technology collaborators to help bring Nucane to global markets.

"Australia is first to market, but we are pitching for other mills globally to produce Nucane," Higgs says.

"We see it as a mainstream sugar replacement, and it has the potential to be a global game changer.

"There is no reason why Nucane cannot replace the majority of the world's white refined sugar in a relatively short period of time.

"No other sugar product can achieve this." \*

**55**  
**NUCANE IS BELOW THIS NUMBER ON THE GLYCEMIC INDEX MAKING IT LOW GI**

"We have put capital into it, and we have a strong marketing team putting the product out there, and we have lots of customers out testing the product," Connors says.

Although Nutrition Innovation retains the Nucane intellectual property, Sunshine Sugar has rights to the brand in Australia.

"If the market does develop, we have two other sugar mills in NSW that are not food grade that we can bring to a food-grade standard and start producing more Nucane," Connors says.

Nucane is already finding strong traction as an ingredient among product manufacturers,

