



## WASTE NOT, WANT NOT: ADDING VALUE TO POTATO PEEL

A desire to combat food waste has led Potatoes South Australia, University of Adelaide and Adelaide Hills Distillery to join forces to make vodka from potato peel. If successful, this project could have far-reaching benefits to both growers, processors and the South Australian food and beverage industry.

The transformation of food waste with limited value to a premium product with high value is on the agenda through a project being undertaken by Potatoes South Australia, University of Adelaide and Adelaide Hills Distillery.

While potatoes are traditionally used to make vodka in many parts of the world, the three organisations are looking into the feasibility of making vodka from potato skins. Potatoes SA received \$30,000 for this project from the South Australian Government through its Small Advanced Food Manufacturing Grants Program, and the project is expected to finish by June 2018.

Potatoes SA Chief Executive Robbie Davis and University of Adelaide lecturer in fermentation and process engineering Dr Richard Muhlack spoke to *Potatoes Australia* about this novel concept.

### PROJECT STAGES

The research and technical elements of this project, including the comparison of potato varieties, are being undertaken by the University of Adelaide, while Potatoes SA is working with Adelaide Hills Distillery to look at the distilling of the product.

"The university's role is to develop the most effective technique to create vodka from peel. That means expertise in analytical chemistry, wine science and sensory science, segmentations and starch profiling and then sampling those during the potato distillation," Ms Davis explained.

The research capabilities from the university will be combined with the expertise of Adelaide Hills Distillery and its head distiller Sacha La Forgia.

"Peelings from processing potatoes aren't a huge waste for the industry, unlike the waste for the fresh sector," Ms Davis said.

"We know that in the process, these potatoes are washed – there's a lot of starch that goes into that water so we're recovering the starch from the water as well as the peelings."

Dr Muhlack said the filtered starch and peelings will offer the best yield of fermentable sugars that are then processed into beverage spirit.

"Results have also shown pre-treatment and fermentation conditions need to be carefully managed in order to optimise production efficiency, in terms of both extraction of starch into solution, conversion of starch into fermentable sugar and then into alcohol," he said.

"Batch trials and sensory analysis are planned for the next phase of the project."

The project is also comparing fresh potato peel with processing potato peel to see which is more suitable for the vodka making process, with the latter showing the most potential.

### A NOVEL IDEA

Dr Muhlack said that international research has been conducted in turning waste such as potato peel into an ethanol spirit, but not into a higher value spirit that would be suitable for consumption as a food beverage.

The key to this project is thinking outside the square, Ms Davis added.

"If something like this has been proven to be done, economically it makes commercial sense – we would commercialise this product so it would be branded. There could be huge export potential if we can get this right because it's so novel."

Both Ms Davis and Dr Muhlack agreed that this project is about one major component: value-adding.

"This project is quite unique because it's actually looking to add value by creating a new, innovative and high value food product – particularly in South Australia where there is a lot of activity happening in the food sector, and the state is known for its high quality food and beverage product," Dr Muhlack said.

"This is really a way in which we can further add to that reputation and prestige."

Ms Davis highlighted the recent incursion of tomato potato psyllid in Western Australia, and how it has affected the potato industry.

"There have to be other ways of value-adding and using potatoes because they're nutrient-dense," she said.

"This project is about novelty. I think it opens the door to thinking differently about what you throw out, what you throw away and what you consider to be waste, because suddenly peelings aren't waste anymore."

"The take home message is: let's look at the whole value chain; let's look at where we can intercept it and value-add to increase returns."

### INFO

For more information, please contact Robbie Davis at [robbiedavis@potatoessa.com.au](mailto:robbiedavis@potatoessa.com.au).

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