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Sally Gras, a cheese cracker



Atomic: Dr Sally Gras is researching how cheese gets its texture.

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NEXT time you pop a piece of cheese in your mouth, spare a thought for Sally Gras.

The [University of Melbourne](#) engineer, biologist and lecturer spends her days researching how cheese gets its texture and how this texture can be replicated by manufacturers.

However, all this testing is not just to work out how cheese gets its delicious taste.

Dr Gras said that if manufacturers could control the texture of cheese and improve its consistency, they could increase yields.

Even a 0.5 per cent increase in yield would equate to 2000 tonnes or \$5 million worth of product in Australia.

"Texture is how cheese feels and tastes," Dr Gras said.

"We have been looking largely at cheddar. It is important that it crumbles in the right way and we want it to melt in the right way too."

Key factors of cheese, such as the raw ingredients - milk proteins, fat globules and starter bacteria - as well as the cheese-making process, including the cooking temperature, how and when the whey gets drained, all determines cheese texture.

Dr Gras and her team have been working with dairy manufacturers for the past two years and are one year into a three-year project funded by the [Australian Research Council](#).

Her interest in researching dairy products started through talking with industry and asking what their problems were and "where they thought research could contribute".

Another project Dr Gras has been working on includes health-promoting ingredients known as prebiotics.

Different to the probiotics, prebiotics are a soluble fibre, which can be made using lower-grade dairy products

such as lactose, which help good bacteria survive in the gut.

Working with the Indian dairy industry, this project is funded by the [Department of Innovation Industry, Science and Research](#) and will look at the positive effects these soluble ingredients have on health.

"It's taking a dairy product and adding value," Dr Gras said.

One of six young Victorian scientists to recently be awarded a [Victorian Fellowship](#) worth \$18,000, Dr Gras will use her fellowship to travel to Ireland, the UK and Europe to learn how research centres are progressing in the area of dairy product microstructure and functional food research.

Dr Gras will also present dairy research at the first international microstructure conference in Norway.

Dr Gras said the conference would be a good chance to learn more about the technologies used abroad in a bid to build Victoria's capability in this area and remain internationally competitive.

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