There's plenty of stretch in mozzarella

World dairy experts believe there's plenty of stretch left in the science that has made mozzarella a New Zealand success story.

They are predicting more "ground-breaking scientific and technological advances" from dairy co-op Fonterra's food structure programme that will benefit the economy and help grow the country's talent pool in R&D.

The panel - comprising global dairy science leaders Professors Allen Foegeding, from North Carolina State University; Erich Windhab, from ETH Switzerland; Jason Stokes at the University of Queensland; and Dérick Rousseau from Canada's Ryerson University – meets every year to review the science and the progress of Fonterra's food structure programme.

In a report released after their latest gathering the scientists said the approach to the mozzarella cheese innovation had produced an "exceptional amount of success".

The panel is encouraging the co-op to stretch the science further in the pursuit of new value-add products.

It says the "scientific approach to mozzarella could be used as a model and directly transferred to other applications, including cream cheese and beverages, with expectations of equal success".

That approach included "attracting top international scientists to New Zealand academic institutions and Fonterra": and looking "out of the box" for innovation. This and other initiatives would "help ensure world leadership in dairy science".

Much of the work in the food structure programme is supported by the Transforming the Dairy Value Chain (TDVC) Primary Growth Partnership programme, a seven-year, $170 million innovation investment led by commercial partners, including DairyNZ and Fonterra, and partnered by the Ministry for Primary Industries.

The programme aims to enable the creation of new dairy products, increase on-farm productivity, reduce environmental impacts, and improve agricultural education.

The panel praised Fonterra for its approach.

"It is impressive to see a company of this magnitude believe in the synergistic relationship that couples sound, basic science and superb training of scientists with targeted economic outcomes," the panel said of the co-op.

Food Structure design programme manager Christina Coker said the co-op's material science approach in mozzarella was deliberate. "It's aimed at developing a sound knowledge of the link between mozzarella structure, material and functional properties and the process used to make it," she said. "Some fantastic work by talented post-grad students, post-docs and Fonterra researchers has seen significant advances that can be applied in future processes."

Food Structure technical manager Steve Taylor said the co-op was heeding the panel's advice and using the knowledge gained through the mozzarella work to further develop its creams, cream cheese and beverages.

"This approach has helped us build an integrated research programme that covers engineering and science aspects of making a product with desired performance, including figuring out what drives the performance," Taylor said.

An important part of that approach was the strong relationship between overseas experts, the co-op's external research partners and its own scientists. "The rich discussions at the reviews have helped shape the work being done, and the interpretation of results," he said.

"This has been particularly important in areas where Fonterra has less internal expertise and has been very inspiring for our researchers."

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