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Image created in a food
science laboratory

Images of Research Competition

University of Alberta

In Pursuit of Better Bread

Semi-finalist (2019)

This image represents a blend of food and the often unseen scientific processes that go into food production. The semi-translucent photos depict laboratory materials that are commonly used in my research, including bacteria cultures growing on agar plates and micropipettes. They are overlaid over an image of the food product of interest: delicious sourdough bread. My work aims to use sourdough fermentation technology to reduce the amount of allergens in wheat products. Rising numbers of people are experiencing sensitivity to wheat, suffering from bloating and abdominal distress. Wheat contains variety of different proteins, including several non-gluten allergens. These allergens can elicit immune reactions in human cells and are thought to contribute to wheat sensitivity. Sourdough bread is a fermentation of wheat with yeast and bacteria. Certain bacterial strains used to make this product can break allergenic proteins down into harmless fragments during fermentation. The goal of my research, as reflected in this image, is to use the power of science to produce bread that anyone – including wheat-sensitive consumers – can enjoy.