

SPROUTING PROJECT SEEKS NEW APPLICATIONS FOR FABA BEAN

Sprouted faba bean could be a healthy ingredient in a variety of food products. This project is working on germination technique, nutrition, taste and product development.



Faba beans are gaining traction as a pulse crop option. Profitability of the crop is reliant on expansion of current marketing options.

There's a solid case to be made for growing faba beans. According to APG estimates in January 2020, when the crop yields 64 bu./ac. and the price is \$7.50/bu./ac., a profit of \$250 per acre could be expected once costs of \$237 per acre are paid.

With fundamentals like these, alongside known agronomic benefits, faba beans now need a greater number and variety of marketing options to become more attractive to growers.

Senior Food Scientist Dr. Jay Han, and his team at Alberta Agriculture and Forestry's Food Processing

Development Centre in Leduc, are nearing completion on a three-year project on sprouted faba bean. This work, which is being supported by APG, seeks to answer four big questions around both low-tannin and high-tannin faba beans.

How should the process work?

"The obvious comparison is to malting barley, but cereal grains and pulses act quite differently," said Han, "and there hasn't been as much work done on sprouting of pulses."

As part of this project, he's tested several approaches to faba bean sprouting, involving steeping in

water, sterilizing and finally drying. One finding is that faba bean can be optimally sprouted in as little as 48 to 72 hours – less than half of the five to seven days used to germinate barley in a malt house.

What's the nutritional profile? Faba beans are highly nutritious, delivering high protein, folate, manganese and dietary fibre. How are its sprouts different? Han's hypothesis is that some of faba beans' nutritional benefits could be lessened by sprouting. Colleague Dr. James House and his team at the University of Manitoba are in the final stages of investigating issues such as the quality and digestibility of protein.

What do they taste like? This question is being answered from two perspectives. Dr. Jonathan Curtis and his team at the University of Alberta are performing a chemical analysis of the flavour of faba bean sprouts. "We're also doing human sensory work here," Han said. "The flavour is a big issue. Faba bean is a bit like dry peas in that they have a relatively milder flavour. It's still a pulse, however, and some people in North America are not familiar with this flavour."

What can be made with them?

When you buy bean sprouts to put on a salad, the sprouts are typically germinated from mung bean or soybean. It could be a while before faba bean sprouts are used in this way. They're more likely to be used as an ingredient.

Investigating these possibilities is the kind of work for which the Food Processing Development Centre is internationally recognized. "We have been doing more of the scientific or analytical work until now," Han said. "We started on product development last fall, and we have four or five possible candidates, such as pasta and extruded snack products, and with that the consumer sensory work. We've done a lot with sprouting faba bean, and we still have some work to do."