

DEVELOPMENT, PROCESSING, AND ACCEPTANCE OF A FABA BEAN (*Vicia faba* var. *minor*) BASED PORRIDGE

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radiant

PROJECT

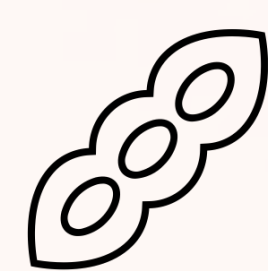
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FRAMEWORK



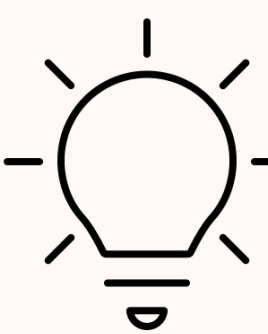
The development of legume-based products represents a high interest for the food market sector, which seeks to develop food products that meet the consumer's requests for healthful and more environmentally sustainable diets.



Faba beans (*Vicia faba*) are rich sources of phosphorus, iron, potassium, and contain some vitamins from the B complex (Dhull et al., 2021).



Their cultivation in Europe is slowly beginning to expand (Sellami et al., 2021) and by processing the grains we enhance their digestibility.



Therefore, this research aimed to exploit the potential of freeze-dried faba bean flours for the development of a new food product that could increase consumer interest in the consumption of locally grown legumes.

METHODS

STEP #1

De-hulled faba beans were freeze-dried in a lyophiliser



STEP #2

Beans were milled into flour



STEP #3

A mix of water, cinnamon, sugar, and freeze-dried faba bean flour was prepared



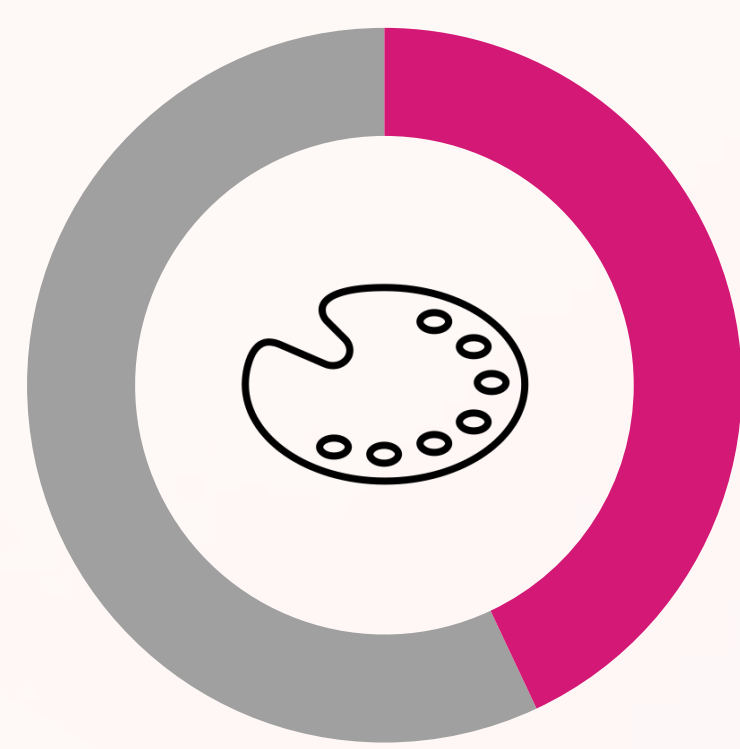
STEP #4

Sensorial analysis with 60 participants



RESULTS & DISCUSSION

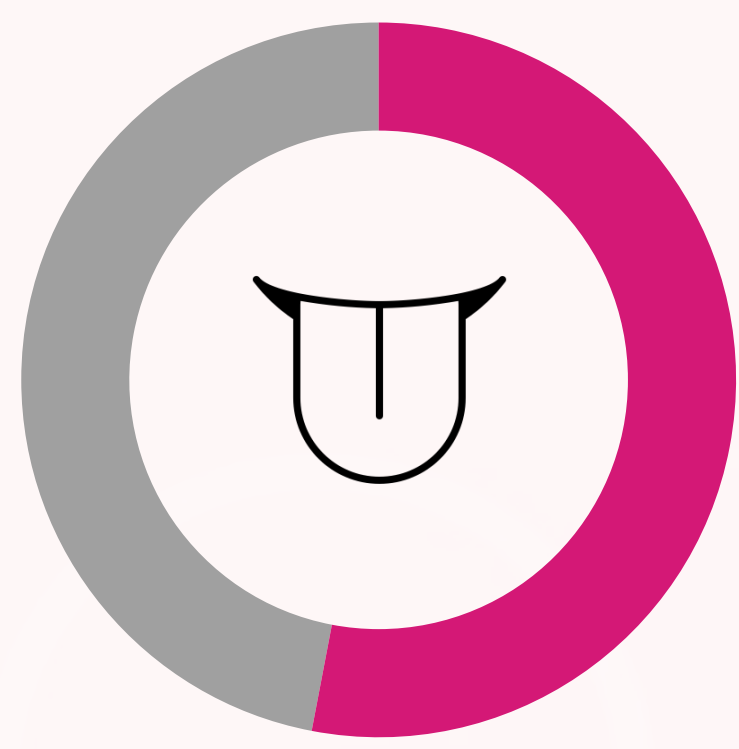
Figure 1: Sensorial analysis results of colour with a 95% CI



43% LIKED COLOUR AT DIFFERENT LEVELS

The green colour of fresh faba beans was preserved in the porridge, making this attribute relatable to the consumer. Research shows that 85% of consumers' food purchasing decisions are influenced strongly by product colour (Simon et al., 2017)

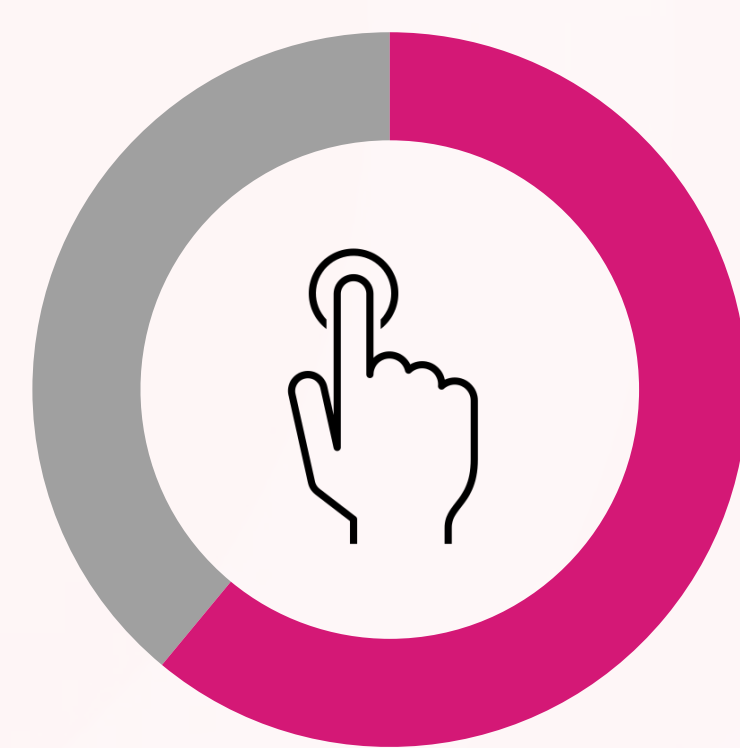
Figure 2: Sensorial analysis results of flavour with a 95% CI



53% LIKED FLAVOUR AT DIFFERENT LEVELS

There's also a link between the perception of the product's colour-saturation and flavour discrimination (Spence, 2019). Here both traits were correlated, and higher scores given for flavour were matched by those given for colour.

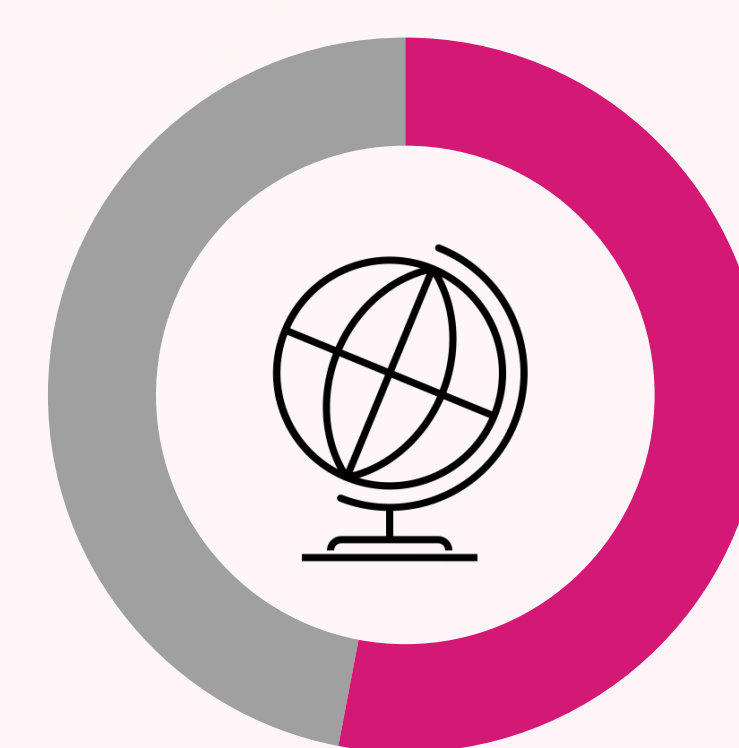
Figure 3: Sensorial analysis results of texture with a 95% CI



61% LIKED TEXTURE AT DIFFERENT LEVELS

The texture was found to have the highest average scores this is believed to be a result of the homogeneity of the flour obtained through freeze-drying, producing a very high-quality ingredient (Oyinloye et al., 2020).

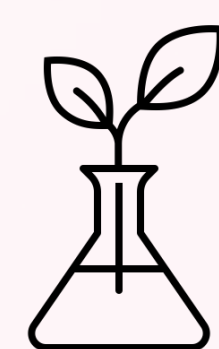
Figure 4: Sensorial analysis results of global appreciation with a 95% CI



53% LIKED THE PRODUCT AT DIFFERENT LEVELS

Lastly, 40% of the panelists indicated liking the porridge at different levels of the overall 'global appreciation' category which align with scores given to other porridges prepared with faba bean flour (Mahmoud et al., 2014).

CONCLUSION



The idea of an eco-friendly diet that is high in plant protein utilising faba bean products is attractive.

However, not every segment of the population is equally motivated to consume such products.

Adding flavourings, or developing a light textured version of the porridge as an easy-to-drink beverage could potentially attract more consumers, contributing to the increased interest of European consumers for faba beans, and legumes in general.

ACKNOWLEDGEMENTS

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