

## DEVELOPMENT OF CURRY FLAVORED PEA AND FAVA BEAN PROTEIN ENRICHED SNACKS

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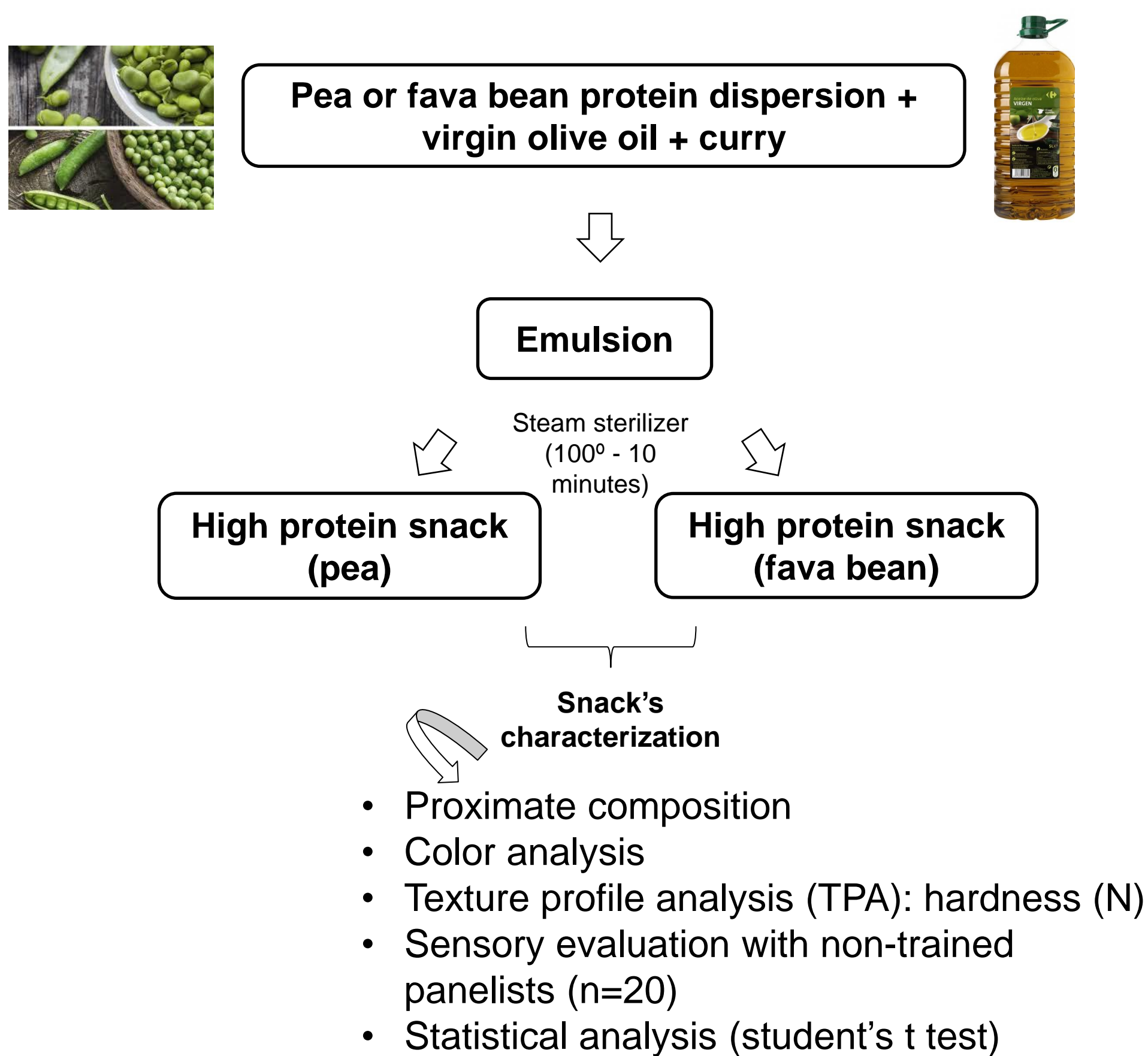
### INTRODUCTION & AIM

A growing demand for a wide variety of plant-based protein enriched foods to decrease the intake of animal-source foods is currently observed. However, developing plant-based products that are both **nutritionally adequate** and **appealing** to consumers presents a significant challenge. It's essential to create foods that not only meet dietary protein requirements but also satisfy consumer expectations.

McClements (2024) designed a new concept called NAPS (novel animal product substitutes), which instead of trying to be animal product analogs tends to be a **new nutrient-rich food category**. These products are semisolid materials composed of plant proteins, polysaccharides and lipids combined with other ingredients and their aim is to become an appealing product from sensory point of view.

The aim of this study was to develop **plant-based protein enriched snacks** with adequate sensory characteristics that can be added to vegetable dishes in order to increase their protein supply.

### METHOD



### ACKNOWLEDGEMENTS

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### RESULTS & DISCUSSION

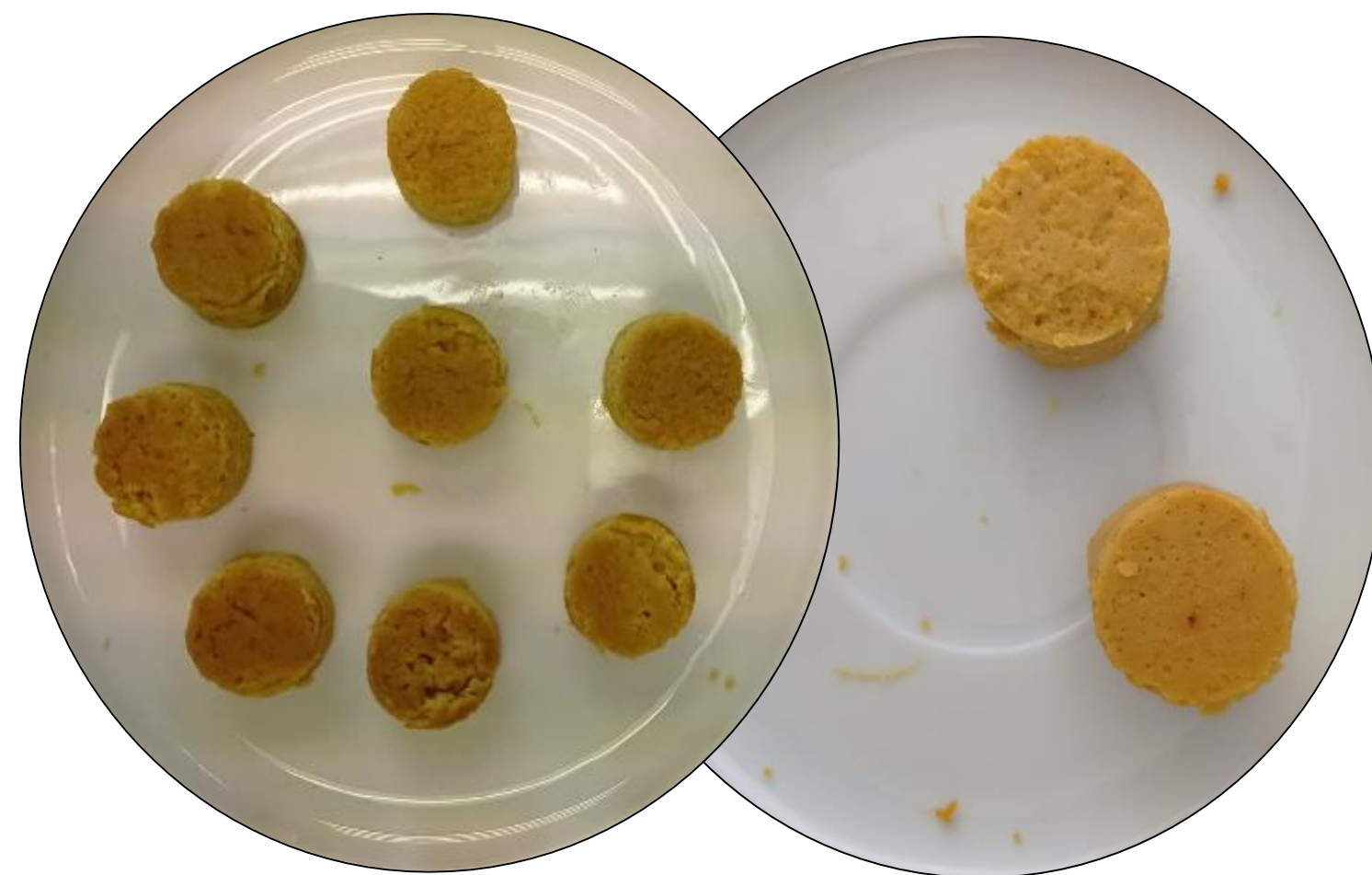


Figure 1. Curry and pea/fava bean protein snacks

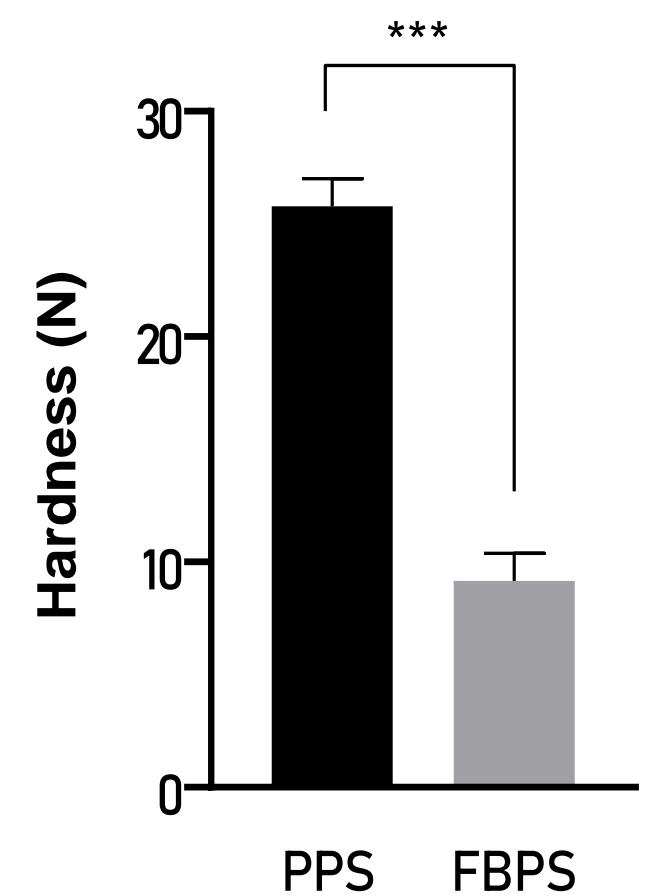


Figure 2. TPA analysis (hardness) of snacks. \*\*\* p<0.001

Table 1. Proximate composition analysis of protein snacks.

	Pea protein	Fava bean protein	p-value
Moisture (%)	58.52 (0.92)	64.62 (0.79)	<0.0001
Fat (%)	9.91 (0.39)	9.85 (1.81)	0.9463
Protein (%)	16.25 (0.02)	16.05 (0.18)	0.0645
Ash (%)	1.73 (0.04)	1.38 (0.05)	<0.0001
Carbohydrates (%)	13.60	8.10	-
Energy (kcal)/100 g	209	185	-

**“High protein”  
(EU Regulation  
1924/2006)**

Table 2. Color properties of snacks.

	Pea protein surface	Pea protein core	p-value	Fava bean protein surface	Fava bean protein core	p-value
L*	57.42 (0.69)	68.39 (0.73)	<0.0001	58.22 (0.24)	71.97 (0.31)	<0.0001
a*	4.02 (0.09)	-1.18 (0.09)	<0.0001	2.20 (0.06)	-3.41 (0.14)	<0.0001
b*	26.21 (1.49)	30.41 (1.52)	<0.0001	26.43 (0.35)	36.63 (0.35)	<0.0001

Table 3. Sensory evaluation of snacks (n=20).

	Pea protein snack	Fava bean protein snack
Acceptable odour	Yes (%) 71.4 ✓	66.7
	No (%) 28.6	33.3
Odd taste	Yes (%) 47.6	71.4
	No (%) 52.4	28.6
Curry taste	Yes (%) 85.7 ✓	38.1
	No (%) 14.3	61.9

### CONCLUSION

Two types of **plant-based protein enriched snacks** were developed and characterized. Both snacks can be considered high in protein (16%). The plant-based pea protein snack seemed more adequate from the sensory point of view than the fava bean one.

### REFERENCES

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