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DEVELOPMENT OF ALMOND MILK-FRUIT SORBET COMPOSITIONS WITH RECORD OF THEIR PHYSICO-CHEMICAL, BIOLOGICAL, NUTRITIONAL, AND TEXTURAL PROPERTIES.

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INTRODUCTION & AIM

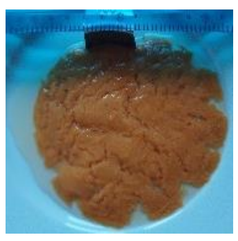
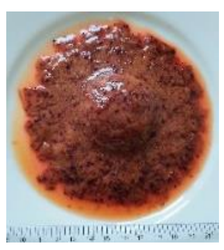
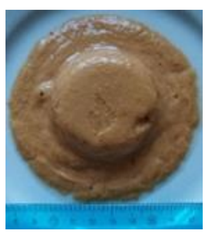
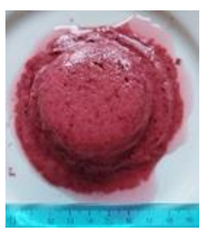
Constantly changing eating habits, in favor of a healthier choice, are an ongoing trending topic. The development of new products with enhanced properties is needed to meet the demands of the contemporary consumer. This study focuses on the development of almond milk-fruit (apricots, plums and their hybrid) sorbet compositions with reference to and comparison of their physico-chemical (moisture and ash content, color spectra, titratable acidity, pH, total soluble solids, meting rate and melting behavior), nutritional composition (by the calculation method), textural properties, antioxidant activity, and water activity. A control sample for each fruit was present, as well as two alterations of the initial recipe using bee honey and lucuma powder as a refined sugar replacement. The soluble solids content varied from 12.80 to 28.03%, and the moisture content from 59 to 76%. The water activity was above 0.9 in all samples. The CIE-lab data showed significant differences between the three fruit used for sorbet base. The apricot resulted in a yellowish product, the hybrid - in a pink, and the plum – in a red. Results show that similarity between samples exists, but the choice of fruit and sweetener affects the product. Further research can provide even better reference for other frozen desserts.

RESULTS & DISCUSSION

Some physico-chemical parameter of almond milk-fruit sorbet alterations

Sample Parameter	Control Apricot	Control Plum-apricot	Control Plum	Bee honey Apricot	Bee honey Plum-apricot	Bee honey Plum	Lucuma powder apricot	Lucuma powder plum-apricot	Lucuma powder plum
Moisture content, %	59,79±0,99	67,51±0,42	52,57±1,23	75,08±3,69	71,00±0,63	63,38±2,23	77,37±3,24	77,64±1,44	70,82±0,48
Water activity	0,978±0,0	0,956±0,005	0,954±0,001	0,973±0,0	0,954±0,002	0,952±0,002	0,977±0,004	0,968±0,0	0,967±0,002
Titratable acidity	0,11	0,13	0,15	0,11	0,08	0,12	0,2	0,24	0,74
pH	3,64	3,98	4,46	4,03	4,31	4,83	3,9	4,71	5,36
Total soluble solids	23,05±0,35	22,45±0,63	28,45±3,46	28,1±0,42	21,4±0,42	24,65±2,89	12,3±0,71	13,65±0,07	17,65±0,07
Vit. C content, mg %	0,14±0,02	0,55±0,01	0,25±0,01	0,13±0,03	0,34±0,03	0,22±0,01	0,16±0,02	0,23±0,01	0,17±0,01

Melting behavior (ambient conditions

Sample Time	Control Apricot	Control Plum-apricot	Control Plum	Bee honey apricot	Bee honey Plum-apricot	Bee honey plum	Lucuma powder apricot	Lucuma powder plum-apricot	Lucuma powder plum
30 min									
60 min									

CONCLUSION / FUTURE WORK

Conclusion: Sustainable new product development can aid in the direction of local products, zero waste recipes, by-product usage, etc.
Future perspectives: Fully incorporate the available bioactive molecules in plant-based nutrition; highlight antinutrients and possible interactions with nutrients; set a sustainable path for food provision incl. superfoods; sustain biodiversity and land use.

ACKNOWLEDGEMENT

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