

MICROENCAPSULATED POMEGRANATE JUICE POWDER

Salient features

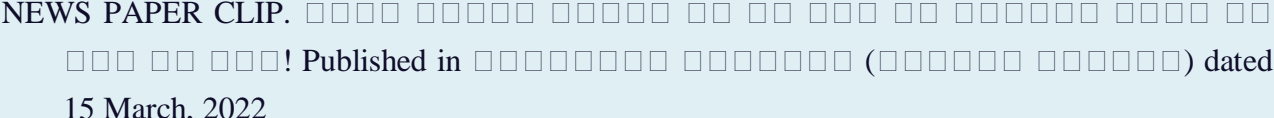
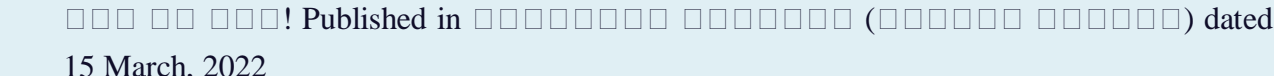
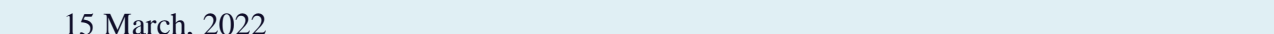
- Pomegranate juice spray drying is a challenge due to lower T_g value of compositional elements particularly sugars and acids.
- This research aimed to elevate glass transition temperature of pomegranate juice and simultaneously curtailing encapsulant (maltodextrin) quantity to obtain nutraceutically enriched powder.
- SEM analysis revealed that encapsulated particles were elliptical to spherical in shape along with smooth crack free surface. Encapsulated anthocyanin molecules were apparent in the SEM images.
- Shelf life > 1 year
- Proximate analysis revealed 92.14 % carbohydrate, 1.2 % fat, 0.79 % ash and 379.72 Kcal energy value.
- Gallic acid, chlorogenic acid, caffeic acid, and quercetin were identified as major phenolic compounds.
- HPLC analysis showed higher retention of B-group vitamins (D-pantothenic acid, pyridoxine hydrochloride and cyanocobalamin).
 - Pomegranate fruit juice powder have a number of food applications
 - rehydration as beverage mix
 - without rehydration as food additive
 - Nutraceutical applications in bakery, coatings, dessert mixes, ice-creams, yoghurts, breakfast cereals, smoothies, fillings and ready meals.

Advantages



Process

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| <i>Technology / Product developed by</i> | ICAR-Central Arid Zone Research Institute, Jodhpur, Rajasthan, India Pin Code- 342001, Email: soma.sriv8@gmail.com |
| <i>Year</i> | 2020-2023 |
| <i>Source of funding</i> | MoFPI |
| <i>More information</i> | <p>Status of commercialization: under process</p> <p>Soma Srivastava, Mrigya Bansal, Dilip Jain, Yashi Srivastava.(2022) .Encapsulation for efficient spray drying of fruit juices with bioactive retention. Journal of Food Measurement and Characterization (2022) 16:3792–3814. https://doi.org/10.1007/s11694-022-01481-4</p> <p>Soma Srivastava. 2022. Development of microencapsulated pomegranate powder for higher retention of bioactives. In: abstracts. International Conference on Advances in Agriculture and Food System (AAFS-2022) towards Sustainable Development Goals at University of Agricultural Sciences, Bangalore</p> <p>NEWS PAPER CLIP.  Published in  () dated 15 March, 2022</p> |