



DEVELOPMENT AND EVALUATION OF FREE SUGAR JELLY MADE WITH LEAFY VEGETABLES AS A FUNCTIONAL FOOD

Sara Adel Amer¹✉ and Hanaa Sayed Mohamed Abd El-Rahman¹

Agricultural Research Centre (ARC), Food Technology Research Institute (FTRI), Egypt
✉ dsaramer55@yahoo.com.

<https://doi.org/10.34302/crpjfst/2023.15.3.3>

Article history:

Received: 15 July 2023

Accepted: 17 September 2023

Keywords:

Jelly;

Swiss chard;

Celery; Leek;

Functional foods;

Agar.

ABSTRACT

Commercial jellies are infamous for their excessive sugar content and for offering no nutritional or functional benefits. Hence, this research is intended to produce sugar-free, healthy jellies utilizing leafy vegetables, including leek, Swiss chard, and celery juice. The findings demonstrated that these products were softer, less gummy, easier to chew, and had nearly the same range of springiness and cohesiveness compared with commercial ones. Also, they have an appealing green hue. Besides, these products are rich sources for manganese, magnesium, iron, zinc, potassium, and calcium, providing an average of 110, 72, 52, 30, 25, and 22.9% of the daily values (DV), respectively. They are also considered a moderate source of vitamins A, C, and B6, giving an average of 16.7, 10.36, and 8.8% DV. Moreover, they could cover up to 55% of the daily value required from dietary fibers. Conversely, they have a lower percentage of carbohydrates, energy density, and glycemic index than the commercial equivalent. Additionally, they showed a high amount of flavonoids (100–348 mg QE/100 g), total phenolic components (318–824 mg GAE/100 g), and significant antioxidant activity (112.91–255.43 mg TE/100 g). Therefore, these novel varieties of jellies provide a nutritious and multifunctional source to satisfy consumers' desire for value-added products.
