CARPATHIAN JOURNAL OF FOOD SCIENCE AND TECHNOLOGY

journal homepage: **http://chimie-biologie.ubm.ro/carpathian_journal/index.html**

Research Article

NOVEL TAMARILLO-RED GINGER KOMBUCHA: IMPACT OF CARBON SOURCE VARIATIONS ON PHYSICOCHEMICAL CHARACTERISTICS, ANTIOXIDANT POTENTIAL, AND SENSORY ACCEPTANCE

Nur Fitrianto[1], Sarah Mutmainah[2], Muhammad Zukhrufuz Zaman[2], Lusia Seti Palindung[1], Ema Damayanti[1], Vita Taufika Rosyida[1], Andri Frediansyah[1], Fajar Husen[3]✉

[1]Research Center for Food Technology and Processing, National Research and Innovation Agency of Indonesia (BRIN), Gunungkidul 55861, Indonesia

[2]Department of Food Science and Technology, Faculty of Agriculture, Universitas Sebelas Maret, Surakarta, Central Java 57126, Indonesia

[3]Department of Medical Laboratory of Technology, Bina Cipta Husada College of Health Science, Purwokerto, Central Java 53144, Indonesia

✉fajarhusen001@gmail.com

https://doi.org/10.34302/crpjfst/2025.17.1.10

Article history:
Complete by editor

Keywords:
Antioxidant;
Coconut sugar;
Red ginger;
Kombucha;
Tamarillo.

Tamarillo and red ginger are rich in nutrients and high in antioxidants, so they have the potential to be used as raw materials for kombucha. This study aims to determine the effect of carbon source variation and substrate formulation of tamarillo-red ginger and to determine the treatment that produces the best tamarillo-red ginger kombucha drink. With carbon source variations in the form of coconut sugar and honey, the substrate formulation used consisted of three levels (tamarillo: red ginger) = F1 (87.5 : 12.5), F2 (75 : 25), F3 (50 : 50), and control sample (F0) with green tea substrate. During 12 days of fermentation, the variation of carbon source had a significant effect on kombucha characteristics. Compared to honey, coconut sugar excelled in various kombucha characteristics, especially in antioxidant activity and sensory parameters. Meanwhile, the tamarillo-red ginger substrate formulation generally did not have a significant effect on kombucha characteristics. Sample F1 of kombucha with coconut sugar carbon source was the best treatment of kombucha with tamarillo-red ginger substrate formulation.