

Viability of *Bifidobacterium animalis* subsp. *lactis* BB-12® in chocolate matrices with different cocoa content



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Introduction/Resume

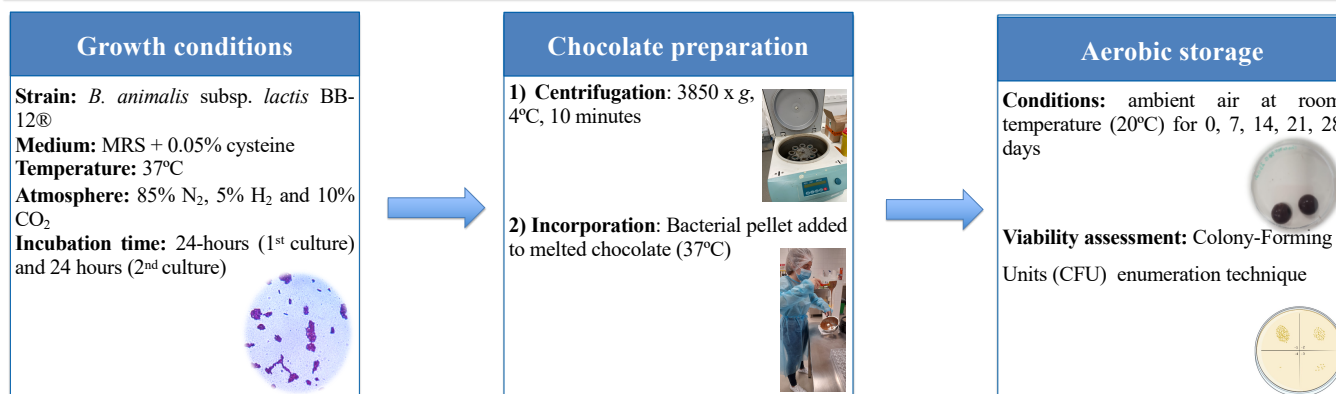
Chocolate is one of the most consumed and **attractive food** products, being available for consumers in **different cocoa percentages**. Furthermore, there has been an increasing interest to explore chocolate as a **carrier for probiotic delivery** [1,2].

Currently, *Bifidobacterium animalis* subsp. *lactis* **BB-12®** is one of the main probiotics used as a **food supplement** [3].

Objectives

This study aims to assess the viability of *B. animalis* subsp. *lactis* BB-12® incorporated in chocolates with different cocoa percentages (33.6% vs 54.5%) over 28 days aerobic storage at room temperature.

Methods



Results

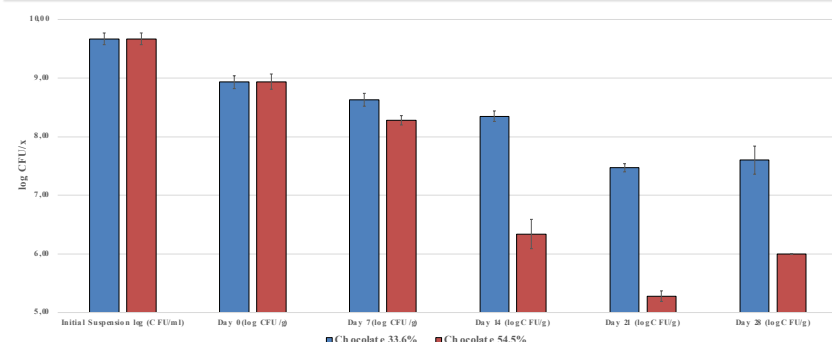


Figure 1. Viability of *B. animalis* subsp. *lactis* BB-12® incorporated in different cocoa content chocolates (blue: 33.6% and red: 54.5%) during 28 days of aerobic storage.

Main Findings

- After incorporation, BB12® viability reduced around 1 log CFU cycle in both cocoa percentages
- Minimum level required (10⁶ CFU/g) were achieved in both chocolates after 28 days of aerobic storage at room temperature
- Milk chocolate (with 33.6% cocoa content) ensured the highest probiotic viable cell numbers throughout aerobic storage

Conclusions

Chocolate appears to be a suitable food matrix for the probiotic *B. animalis* subsp. *lactis* BB-12® cells delivery. Specifically, milk chocolate with 33.6% cocoa content ensures high cell viability (>10⁷ CFU/g) during prolonged aerobic storage. A higher cocoa content seems to partially reduce the viability without impact in minimum threshold required.

References

- [1] Hossain et al (2021): DOI: 10.1590/ft.11420
- [2] Kemsawasd et al (2016): DOI:10.1016/J.FBIO.2016.09.001
- [3] Gomes et al (2017). ISBN: 978-1-53612-159-9

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