

An evaluation of the potential of *Inga paterno* sarcotesta and its seeds for the production of probiotic beverages: their effect on antioxidants and *Lactiplantibacillus plantarum* viability at refrigeration storage temperatures

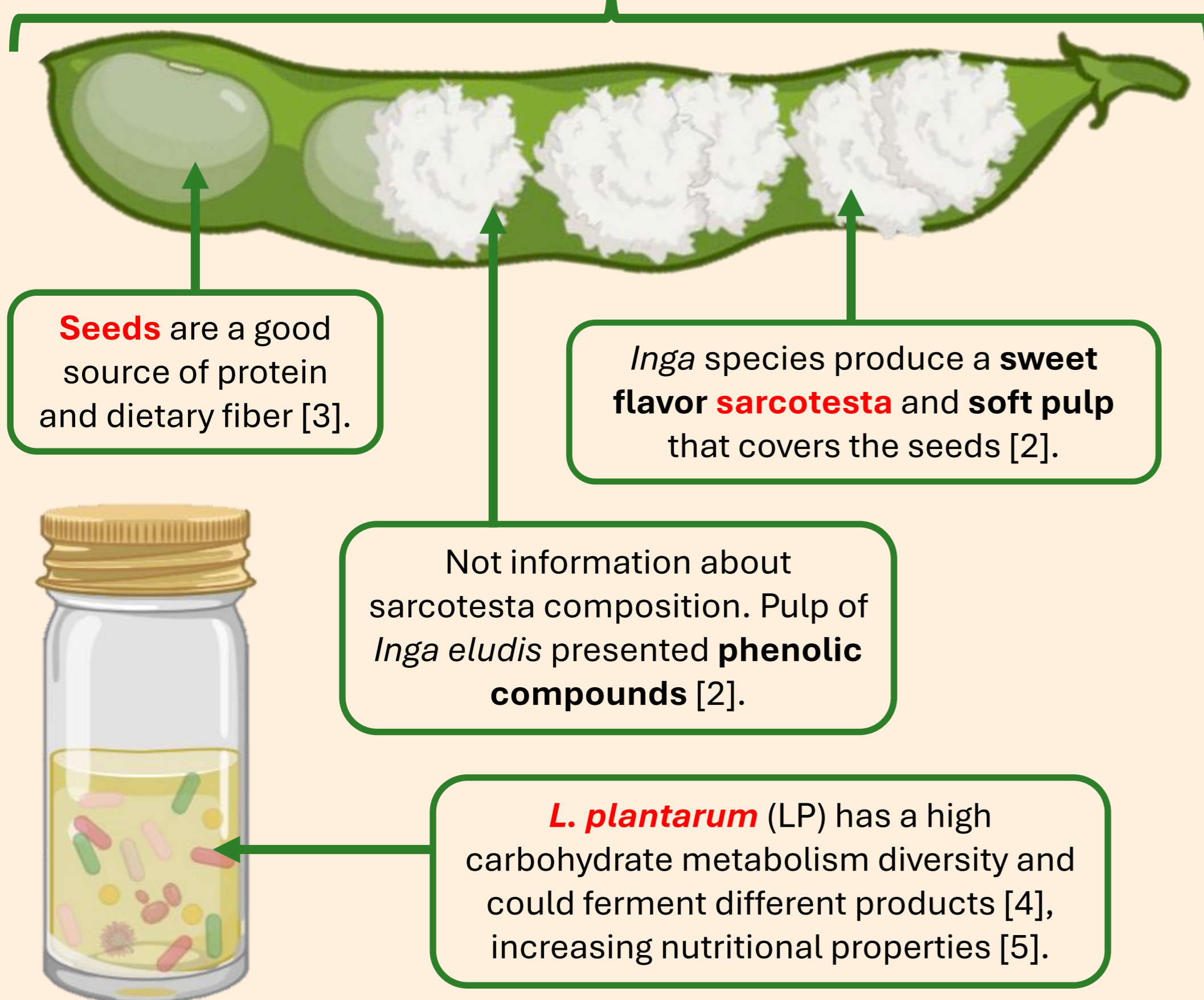
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INTRODUCTION & AIM

Inga paterno is an indigenous Mexican legume hardly explored [1].



The aim of this work was to evaluate the effect of *L. plantarum* fermentation on different formulations of sarcotesta and seeds of *I. paterno*.

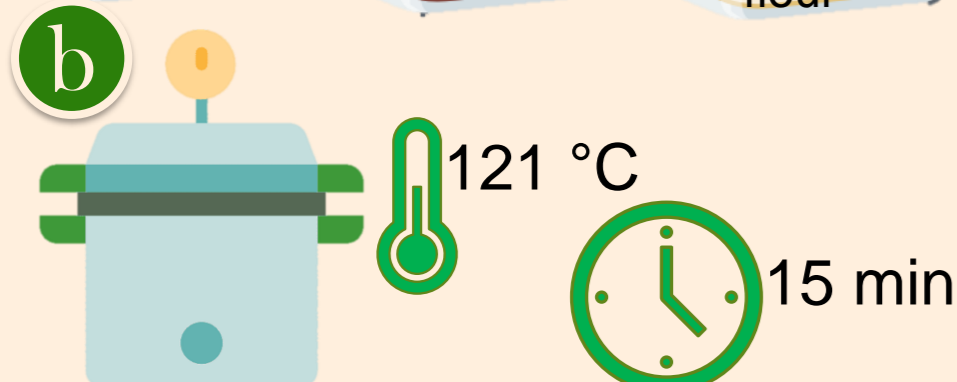
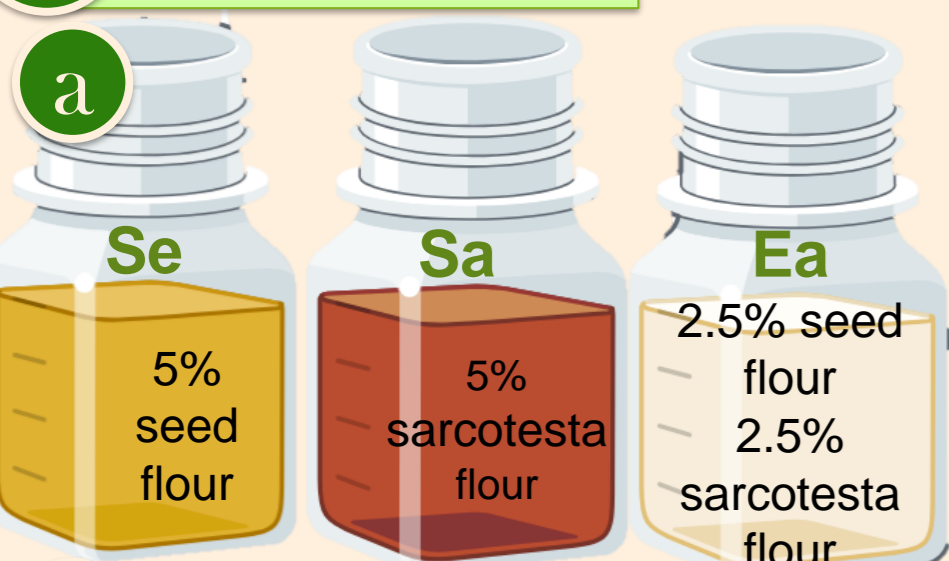
METHOD

1 Pod processing

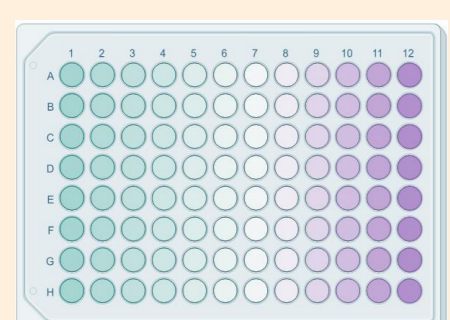
Harvest November 2023

- a Washing
- b Separation of seeds and sarcotesta

3 Formulation



5 Characterization



- Total phenols content → Folin-Ciocalteu
- Antioxidant activity → DPPH

2 Flour production

- a Dehydration: 35 °C, 48 h
- b Grinding

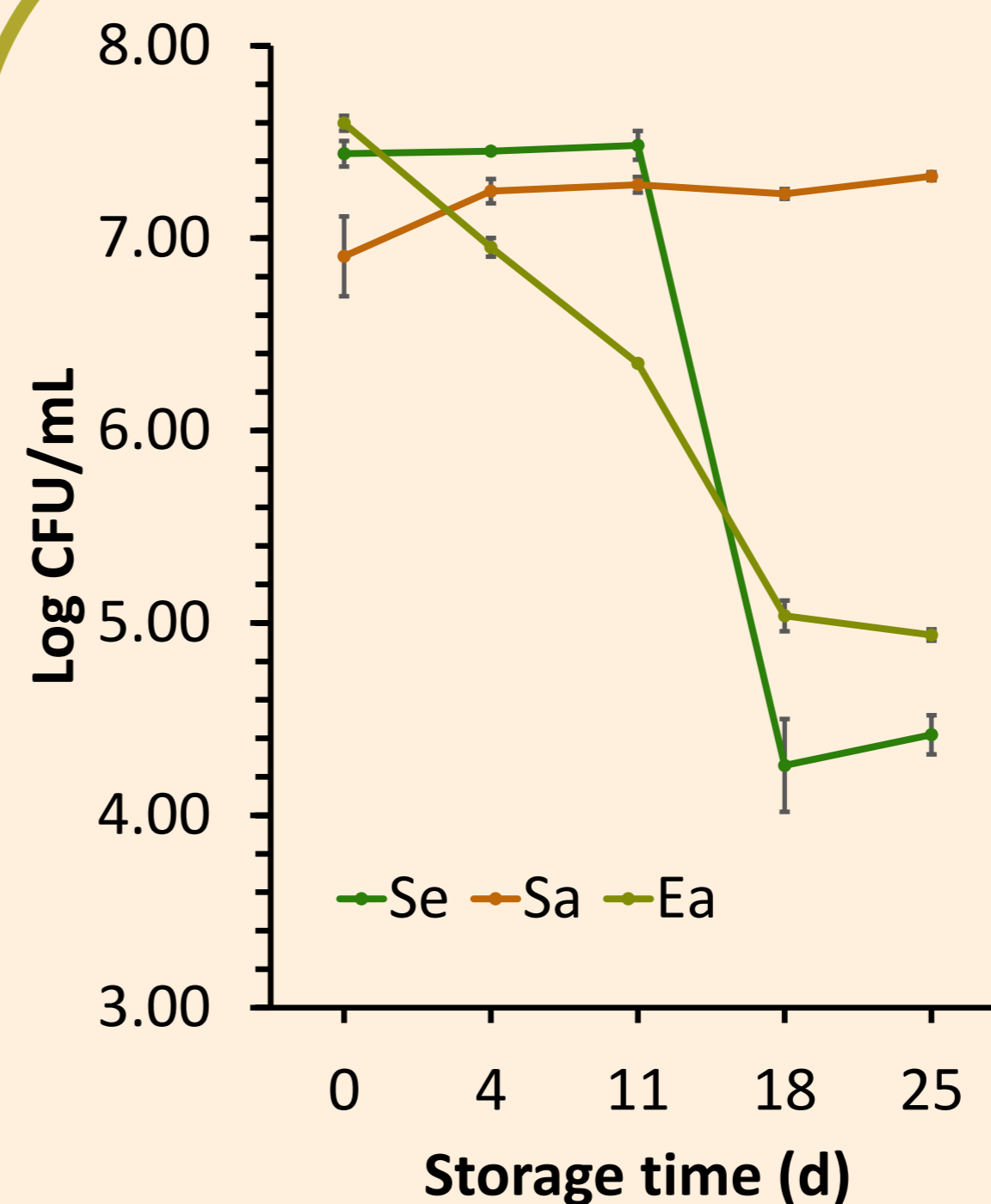
4 Fermentation

- a LP was inoculated (2.1×10^6 CFU/mL)
- b Incubation: 35 °C, 72 h
- c Quantification of microorganisms during storage in MRS agar.

6 Statistical analysis

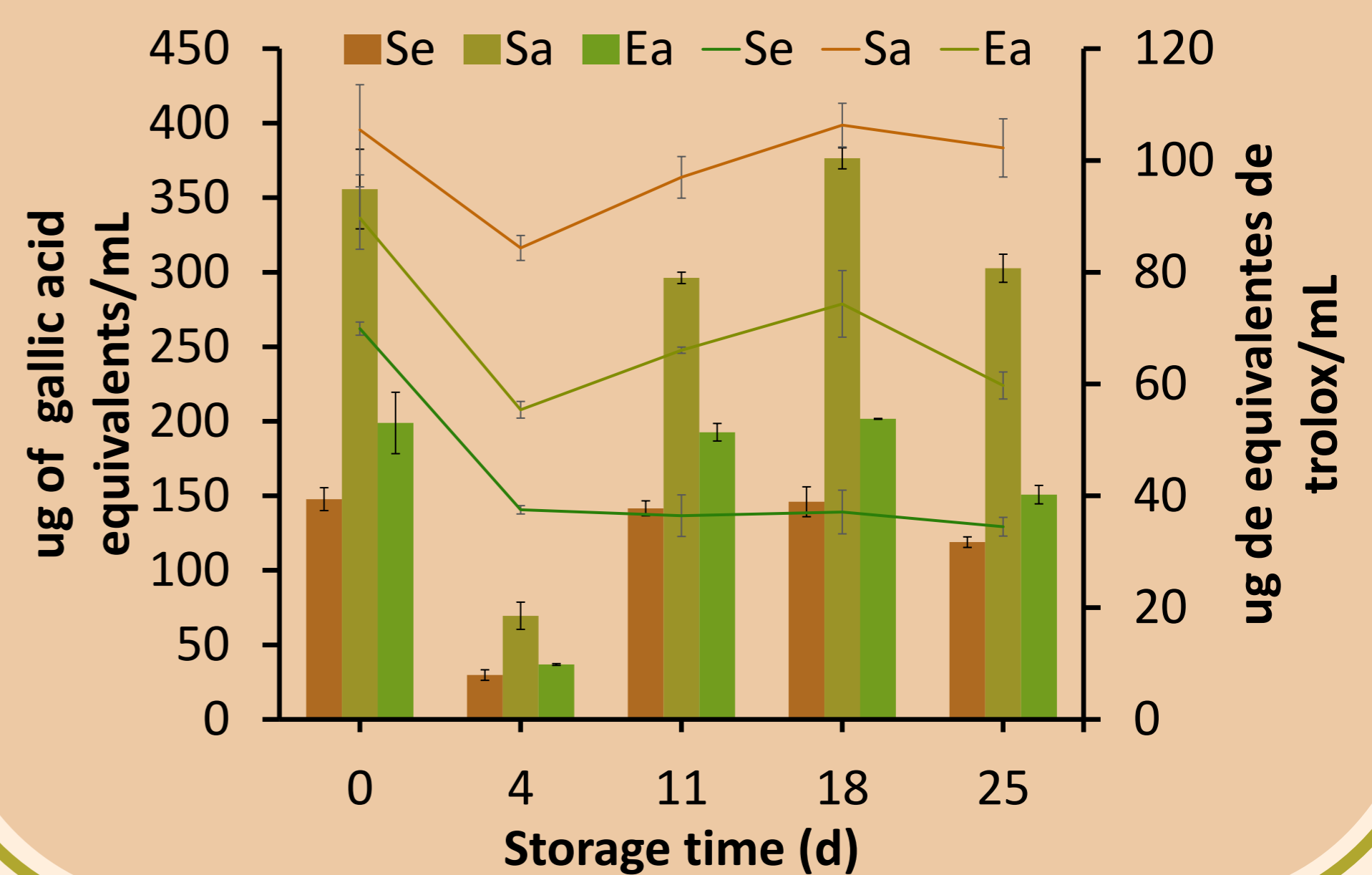
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One-way ANOVA and a Tukey's test ($p < 0.05$) [5,6]

RESULTS & DISCUSSION



Changes in **LP viability** on the formulations was because LP ability to use different sugars, including D-glucose, D-galactose, D-fructose, D-xylose, and D-ribose, [4]. Although Se could contain raffinose and stachyose [4], Sa may provide a higher amount of fructose and glucose.

The increase of TAC was correlated TPC ($R^2 = 0.7156$). This probably due to the presence of LP enzymes that metabolize flavonoids, phenolic compounds, and tannins, increasing their bioavailability [7].



CONCLUSION

Sarcotesta of *I. paterno* was better for the development of antioxidant-probiotic beverage because increases antioxidant compounds and ensures the viability of LP. However, is necessary to consider that *I. paterno* is a seasonal crop. Further investigations are needed to characterize the antioxidant compounds generated after fermentation.

REFERENCES



ACKNOWLEDGEMENTS



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