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INTRODUCTION

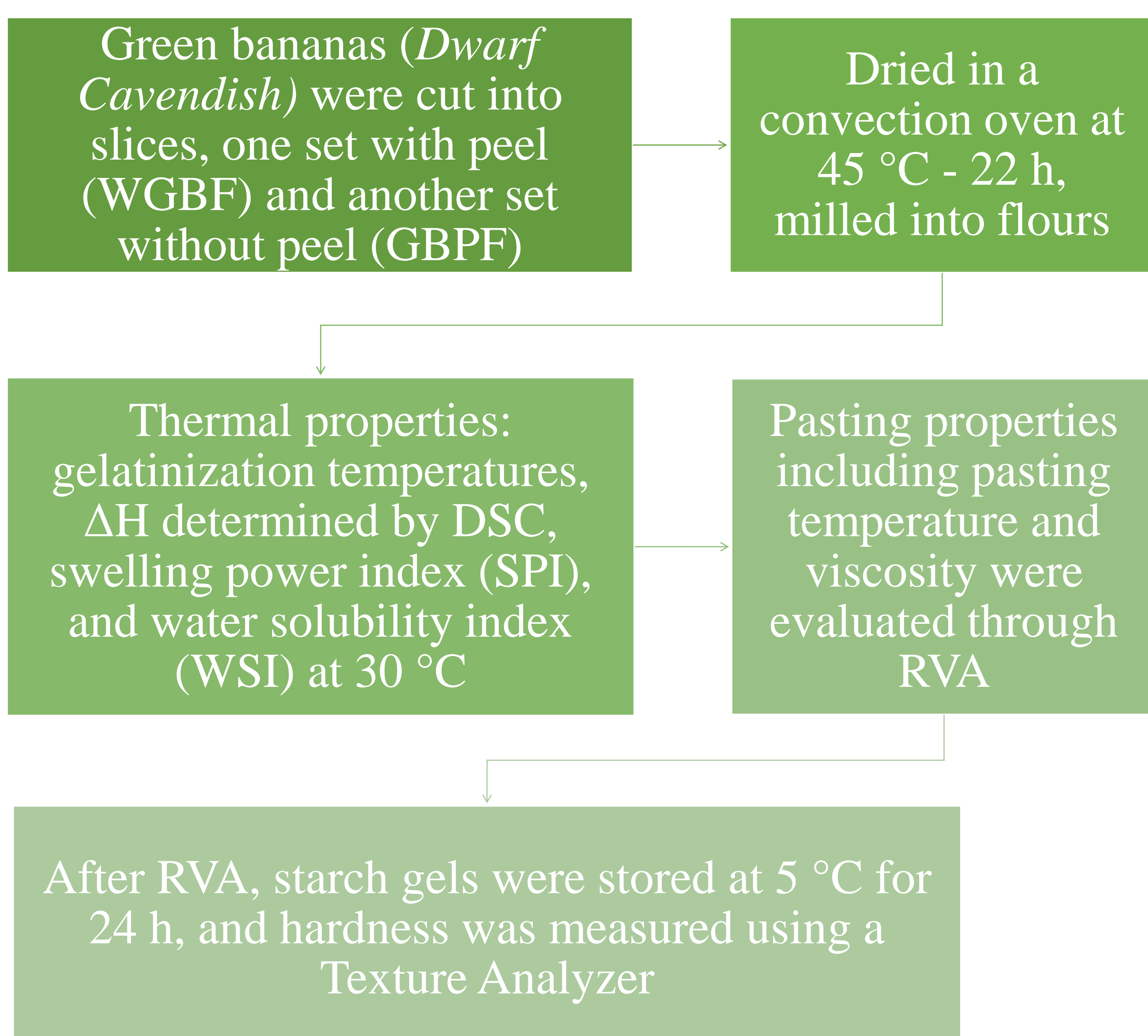
- ✓ The production of flour from unconventional sources has been expanding in recent years.
- ✓ Green banana is a potential source that can partially/totally replace traditional flours as it has a high starch content, especially resistant starch.
- ✓ The flour has a high content of fiber, vitamins, minerals and antioxidants.
- ✓ The thermal and pasting properties of flours are important parameters to determine their final applications in foods.



OBJECTIVES

The aim of this research is to produce and evaluate green banana pulp flour (GBPF) and whole green banana flour (WGBF) in relation to their thermal and pasting properties.

MATERIAL AND METHODS



REFERENCES

ALKARKHI, A. F. M. et al. Comparing physicochemical properties of banana pulp and peel flours prepared from green and ripe fruits. *Food Chemistry*, v. 129, n. 2, p. 312–318, 2011.

KHOZANI, A. A.; BIRCH, J.; BEKHIT, A. E. A. Production, application and health effects of banana pulp and peel flour in the food industry. *Journal of Food Science and Technology*, v. 56, n. 2, p. 548–559, 2019.

RESULTS AND DISCUSSION

Table 1. Proximal composition, thermal and pasting properties of GBPF and WGBF

Composition/Properties	GBPF	WGBF
Ash (g.100 g ⁻¹)	2.95 ± 0.02 ^b	4.71 ± 0.09 ^a
Protein (g.100 g ⁻¹)	5.05 ± 0.16 ^a	5.10 ± 0.16 ^a
Lipid (g.100 g ⁻¹)	0.34 ± 0.01 ^b	1.08 ± 0.05 ^a
Fiber (g.100 g ⁻¹)	10.09 ± 0.02 ^b	16.22 ± 0.05 ^a
T ₀ (°C)	72.5 ± 0.06 ^a	72.5 ± 0.06 ^a
T _p (°C)	75.6 ± 0.02 ^a	75.6 ± 0.05 ^a
T _f (°C)	80.5 ± 0.50 ^a	80.9 ± 0.27 ^a
ΔH (J.g ⁻¹)	11.0 ± 0.63 ^a	11.1 ± 0.19 ^a
SPI (g.g ⁻¹)	2.7 ± 0.04 ^b	3.1 ± 0.07 ^a
WSI (g.100 g ⁻¹)	7.7 ± 0.32 ^b	9.4 ± 0.99 ^a
Pasting temp (°C)	73.8 ± 0.17 ^a	74.2 ± 0.23 ^a
Hardness (N)	3.6 ± 0.37 ^a	2.0 ± 0.24 ^b

Data are presented as average ± standard deviation (n=3); in the same row, the numbers with the same letters are not significantly different at p < 0.05. Composition is on dry basis.

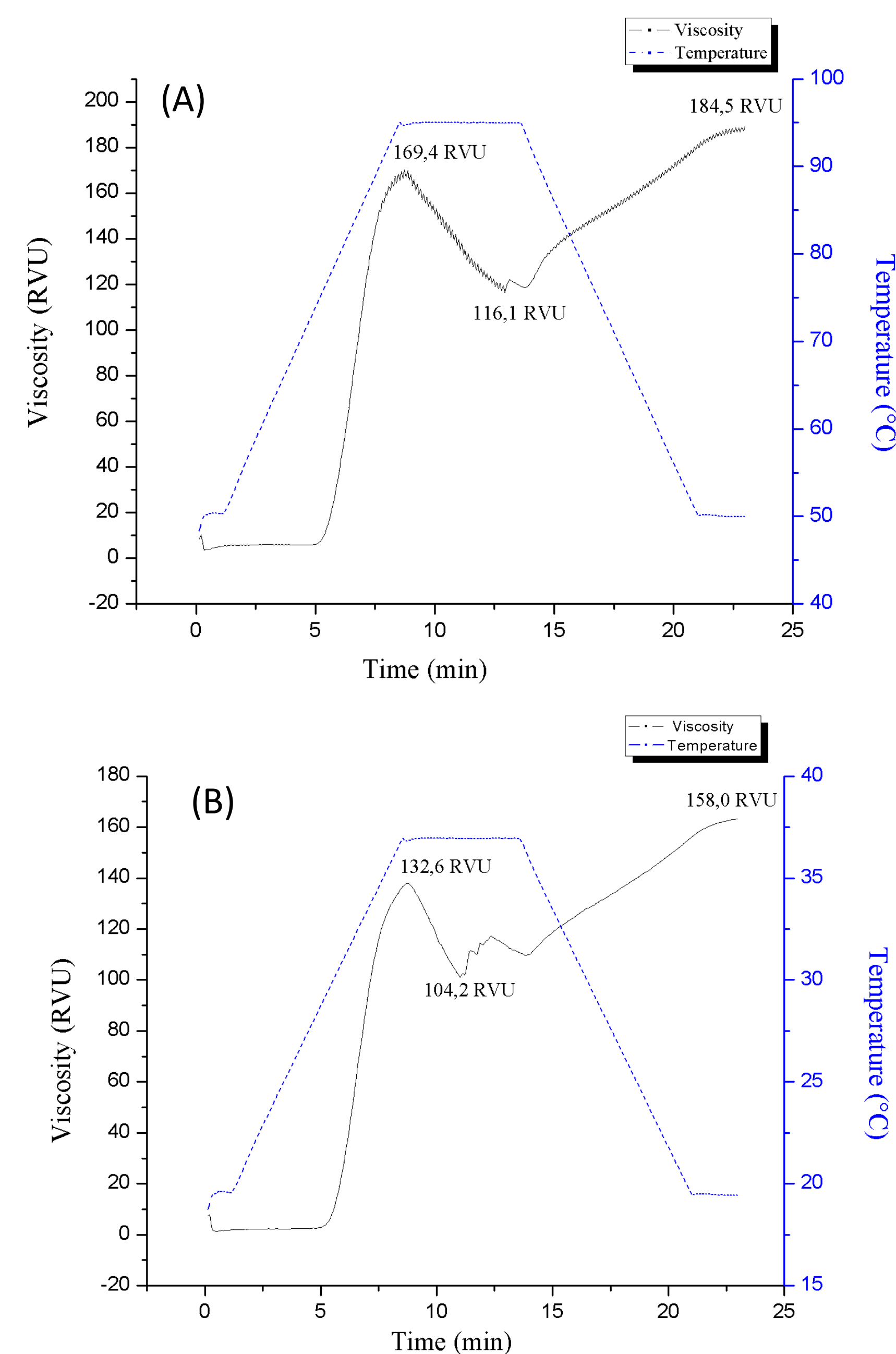


Figure 1. Pasting profile of GBPF (A) and WGBF (B).

WGBF presented a weaker gel compared to GBPF, which can be attributed to the presence of fiber that influenced the gel network during the cooling of the gel.

Only breakdown (48.7 RVU) and setback (68.5 RVU) viscosities of GBPF were significantly higher than the WGBF values (28.4 RVU and 53.8 RVU).

CONCLUSION

Green banana has great potential to be used as an alternative flour in various food products. The utilization of its peel can reduce peel waste and turn into value added products.

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