

DRYING KINETICS AND QUALITY ATTRIBUTES OF GARDENIA ERUBESCENS FRUITS AS AFFECTED BY SLICE THICKNESS, PRETREATMENT AND DRYING AIR TEMPERATURE

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1. INTRODUCTION

- Gardenia erubescens (GE) fruit is nutrient dense, but is seasonal and highly perishable.
- Application of preservative methods such as drying is therefore imperative for shelf life extension.
- This study was therefore undertaken to investigate the effect of slice thickness, pretreatment option and air temperature on the drying kinetics, colour, and bioactive compound composition of GE fruits.

2. METHODOLOGY

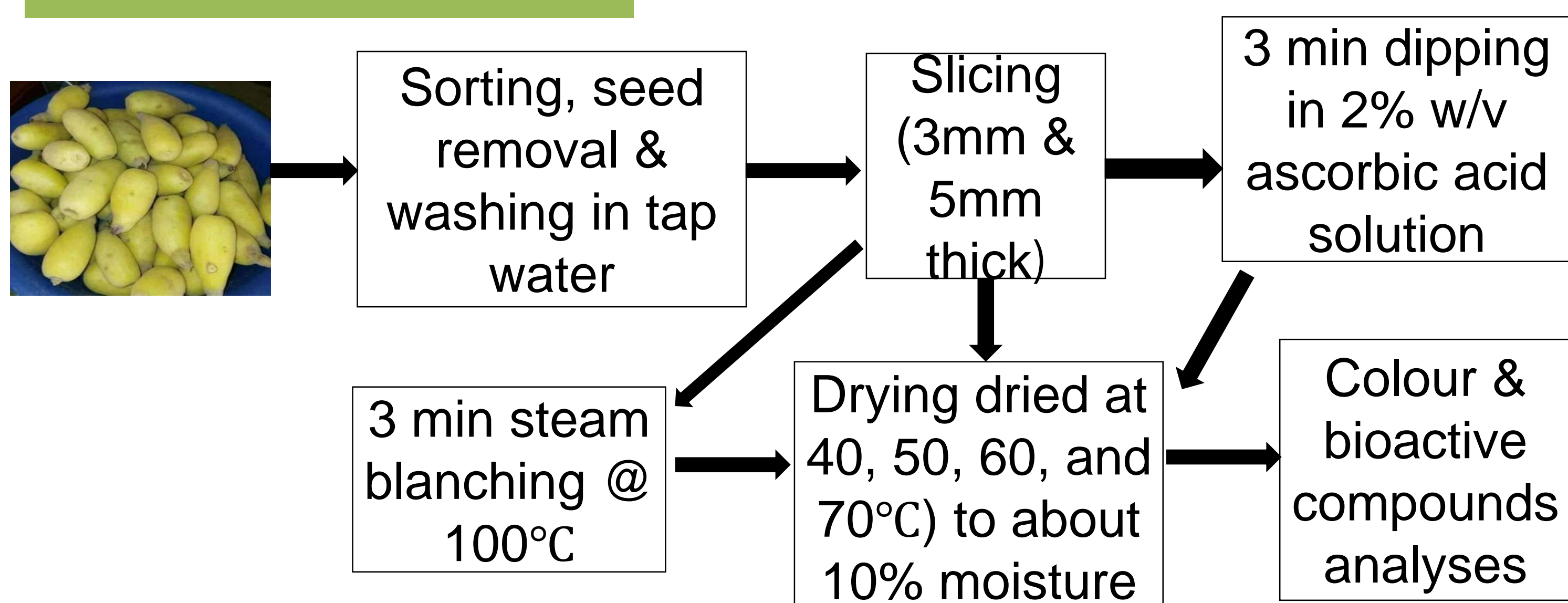


Fig. 1. Preparation, drying and quality analysis of GE fruits

3. RESULTS

- The drying time increased with pretreatments in the order control < ascorbic acid < steam blanching and increase in slice thickness, but decreased considerably with increase in air temperature (fig. 2).

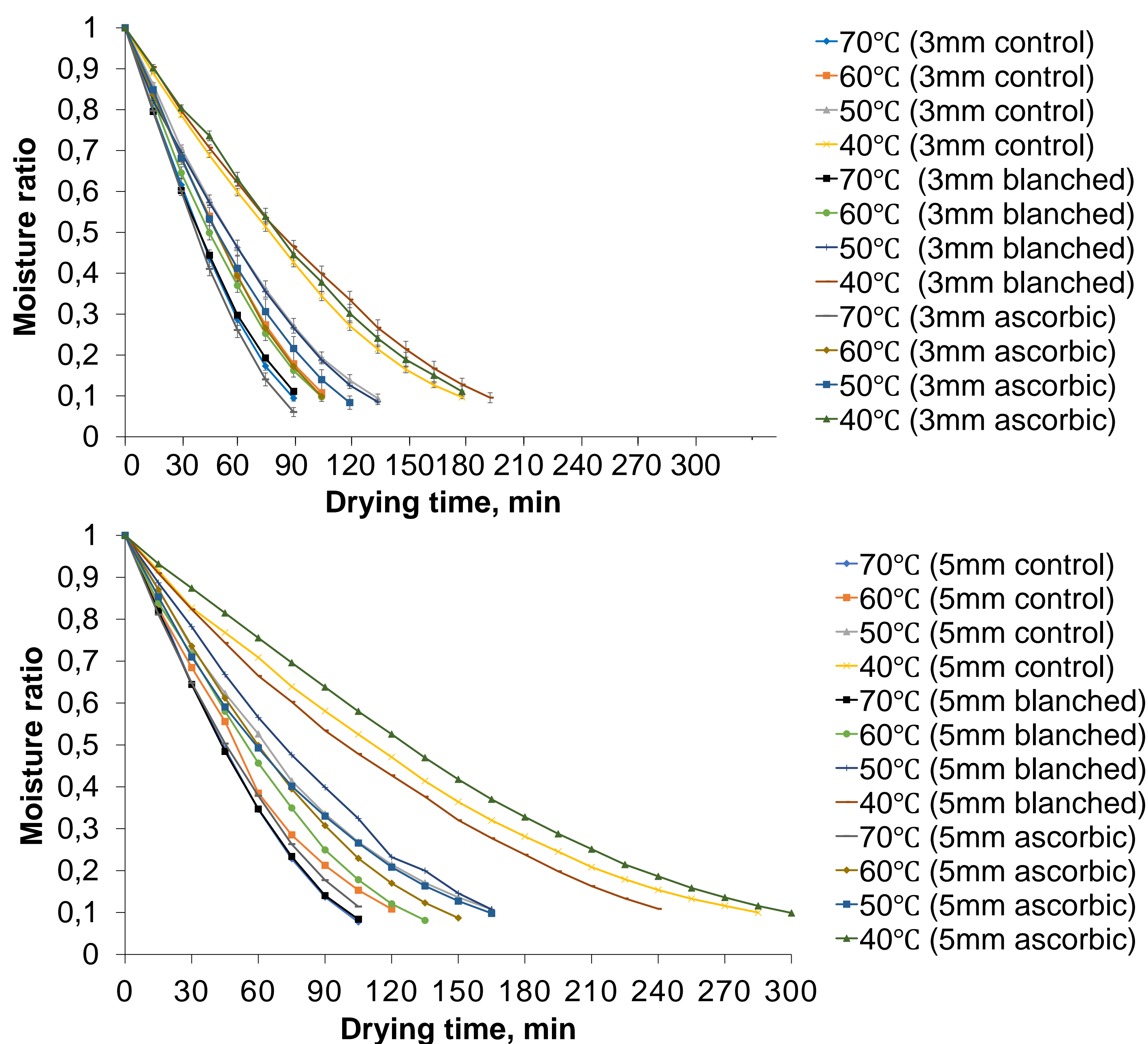


Fig. 2. Effect of pretreatment and temperature on moisture ratio of 3mm and 5mm thick slices of GE fruits.

5. ACKNOWLEDGEMENT

This study is part of an ongoing project, UPGRADE Plus (323-06.01-03 2816PROC01), which is financially supported by the German Federal Ministry of Food and Agriculture (BMEL).

- The greatest colour change and chroma were associated to 5 mm fruit slice thickness pretreated with ascorbic acid and steam blanching, respectively
- The lowest β -carotene, vitamin C and flavonoid, phenol and antioxidant activity in fruits pretreated with ascorbic acid and steam blanching, respectively

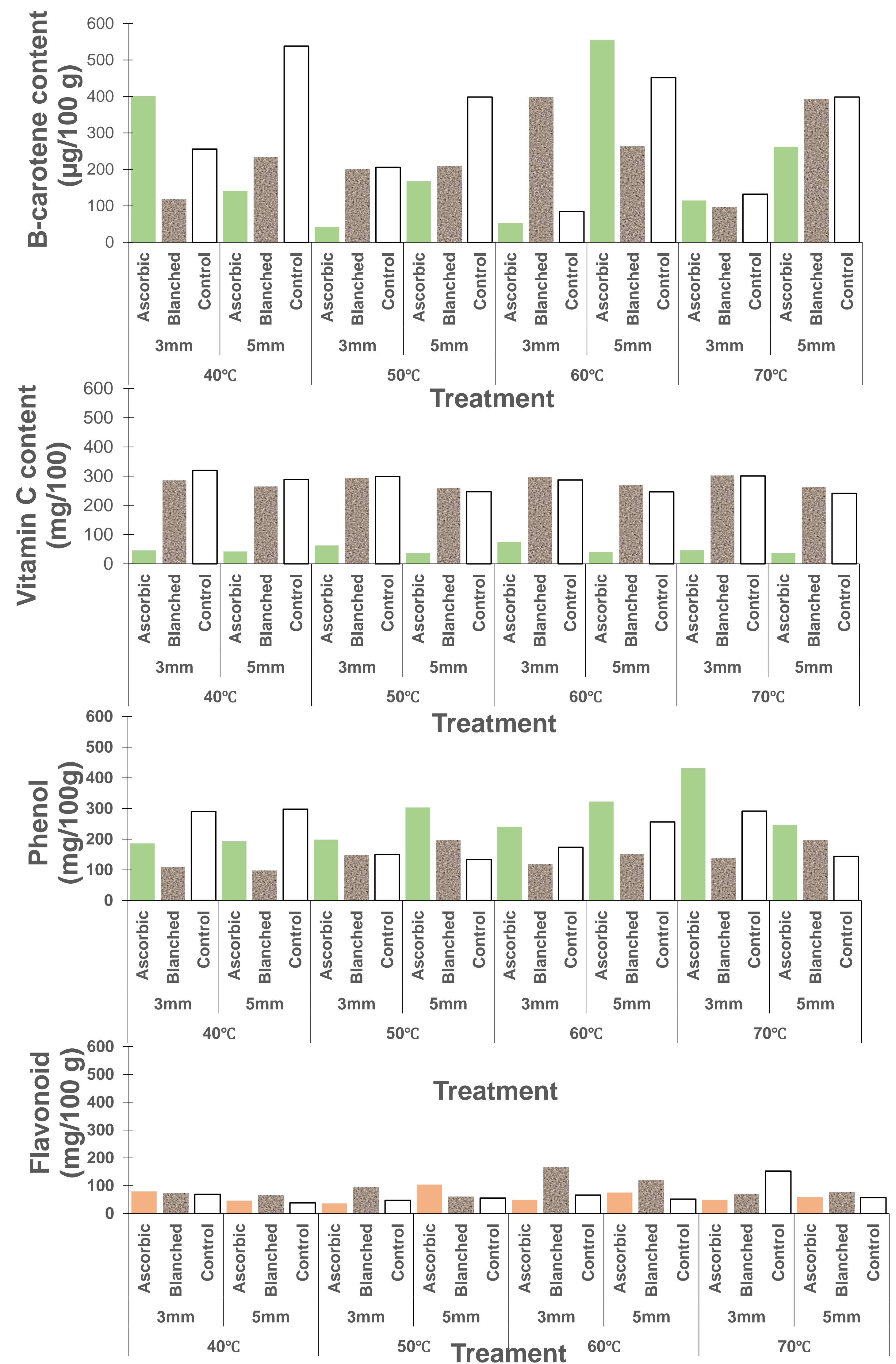


Fig. 3. Effect of drying conditions on selected bioactive compounds of GE fruits.

4. CONCLUSION

- Slice thickness, pretreatment and air temperature had significant effect on the parameters measured.
- From the results, there may not be any need to pretreat GE fruit or increase its slice thickness before drying since doing these did not translate to better results.