

For Poster Presentation

EVALUATION OF THE TOTAL POLYPHENOL AND FLAVONOID CONTENT OF NAVEL ORANGES *CITRUS SINENSIS (L) OSB.* GROWN IN THE WESTERN CAPE OF SOUTH AFRICA

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Introduction

The genetic characteristics of citrus varieties influence the micro-constituents and mainly the flavonoid content. Citrus flavonoid content is influenced by the growing season and location and may be influenced by post-harvest processing. Very little information exists on the variation in flavonoid content of different South African citrus varieties. Thus, the aim of this study is to determine the total polyphenolic content (TPC) and flavonoid content (FLAV) of navel oranges grown in the Western Cape region of South Africa.

Methodology

Navel oranges were received from a fruit processor during the 2011 harvesting season. The TPC and FLAV were measured using spectrophotometric analysis at an absorbance of 760 nm and 420 nm, respectively. Furthermore, the °Brix, pH and titratable acidity (TA) were measured using approved methods.

Results and Discussion

The °Brix and TA values differed significantly ($p < 0.05$) throughout the season ranging from 10.75 – 12.65 and 0.90 – 1.10 % citric acid (w/w) respectively. Samples taken close to the end of the season had the highest °Brix/acid ratio (13.00 and 12.97) and differed significantly from the rest. The FLAV was found to range from 213.60 – 349.85 ppm and did not differ significantly throughout the season. However, the TPC was found to differ significantly ranging from 430.13 – 659.40 ppm.

Conclusions

The FLAV content of Navel oranges grown in the Western Cape region of South Africa were not found to vary during the 2011 harvesting season which may suggest that naringin or flavanones are not affected by the degree of ripeness. Furthermore, the TPC was found to increase as the season progressed.