**For Poster Presentation**

**EFFECT OF HEAT TREATMENT ON THE TOTAL POLYPHENOL AND FLAVONOID CONTENT OF COMMERCIAL ORANGE JUICES**

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**Introduction**

Pasteurisation and ultra-high temperature (UHT) processing has been used traditionally as heat treatment to prolong the shelf life of fruit juices although irreversible losses of nutritional quality may occur. Therefore, the aim of this study was to determine the total polyphenol content (TPC) and flavonoid (FLAV) content of freshly squeezed (FSQ), pasteurised ready-to-drink (PAST) and ultra-high temperature (UHT) treated orange juices to examine the effect of heat treatment.

**Methodology**

The commercial juice samples, FSQ, PAST and UHT, were purchased from the local market. Readings were taken at an absorbance of 760 nm for TPC (mg GE/100 ml) whilst FLAV was measured at 420 nm (mg NE/100 ml). The samples were also analysed for °Brix and pH according to approved methods.

**Results and Discussion**

The FLAV was found to range from 10.52 – 19.24 mg NE/100 ml and differed significantly ($p < 0.05$) in the commercial juices. The FLAV of UHT did not differ significantly from PAST and FSQ. However, the FLAV of PAST & FSQ differed significantly with PAST having the lowest FLAV and FSQ having the highest content. Furthermore, the TPC of UHT and FSQ samples did not differ significantly and ranged from 90.57 – 105.92 mg GE/100 ml but differed significantly from PAST samples having a range of 17.10 – 53.73 mg GE/100 ml.

**Conclusions**

The FLAV and TPC content of commercial orange juices indicated that the effect of heat treatment on total flavonoids and total polyphenols was not significant, since the FLAV and TPC of UHT and FSQ did not differ significantly. However, the results indicated that the effect of packaging material type on the stability of bioactive compounds throughout the shelf-life of the commercial orange juices needs to be investigated.