



## INFLUENCE OF HOT WATER TREATMENTS ON INCIDENCE OF DECAY, PEEL COLOUR AND RIND APPEARANCE OF SWEET ORANGE FRUITS (*CITRUS SINENSIS* (L) OSBECK) DURING STORAGE

O.O. Oladele\* and A.T. Aborisade

Department of Biology, The Federal University of Technology, P.M.B 704, Akure, Nigeria.

\*richcometh2003@yahoo.com

### ABSTRACT

Uninoculated mature green orange fruits of amber sweet variety were immersed in hot water at 35<sup>0</sup>C, 45<sup>0</sup>C, 48<sup>0</sup>C, 50<sup>0</sup>C, 53<sup>0</sup>C and 55<sup>0</sup>C for various lengths of times before storage at 28<sup>0</sup>C and 95% relative humidity. Untreated fruits were used as control. Results showed that hot water treatments reduced incidence of decay. While the control fruits had 20% incidence of decay, total decay control at 7 days of storage was observed with all treatments between 35 and 55<sup>0</sup>C without any adverse effects to the rind of the fruits. Although the effectiveness of the hot water treatments had declined by day 14 of storage, fruits immersed in water at 35<sup>0</sup>C for 25minutes remained healthy (no decay) till 28<sup>th</sup> day of storage and 35<sup>th</sup> day for those immersed in 35<sup>0</sup>C for 30minutes with the control fruits showing complete rot by 21<sup>st</sup> day of storage. *Penicillium digitatum*, *Phytophthora* sp. and *Alternaria citri* were the causal organisms detected. Hence, hot water immersion at 35<sup>0</sup>C for 25 and 30minutes could be described as effective treatments for decay control. Colour change to yellow was retarded by the hot water treatments.

**Keywords:** Fruits, temperatures, immersion.