

O-8 (40)**EFFECT OF HOT WATER, ESSENTIAL OIL AND EDIBLE COATING ON POSTHARVEST QUALITY OF MEXICAN LIME INOCULATED BY PENICILLIUM DIGITATUM**

Assoc. Prof. Asghar Ramezani, Department of Horticultural Science, Shiraz University, Shiraz, Iran; ramezani@shirazu.ac.ir (Presenting author)

Ms. Sara Atrash, Department of Horticultural Science, Shiraz, Iran; atrashsara2020@gmail.com

Prof. Dr. Majid Rahemi, Department of Horticultural Science, Shiraz, Iran; rahemi@shirazu.ac.ir

Postharvest quality of Mexican limes decline mainly due to green mold. This research was carried out to control fruit decay and maintain quality of fruit during storage using generally recognized as safe treatments. The aerial parts of *Satureja hortensis* was used for essential oil extraction with distillation method using Clevenger apparatus. The *Penicillium digitatum* spores separated from infected lemon fruit and single spores was cultured on PDA medium. In this experiment, fruit were inoculated by spores of the fungus, and were treated with 7 treatments including savory essential oil (800 and 1000 $\mu\text{l L}^{-1}$), hot water (40 and 50 °C) and edible coating of gum Arabic (2.5 and 5%). The experiment was done in 3 replicates. Mexican lime fruit were treated for 5 min. After drying, they were packaged in perforated polyethylene bags and were kept at a temperature of 8 °C and at 85% RH for 5 for 6 weeks. Overall, heat treatment and savory essential oil (800 $\mu\text{l L}^{-1}$) were the best treatments to control decay of Mexican lime. Heat treatment was observed to reduce weight loss compared to the control. Gum Arabic and savory essential oil (2.5%) were the most effective treatments for maintenance of fruit firmness.

Keywords: Savory, Gum Arabic, Weight Loss, Firmness