Effect of heat treatment on curing and post harvest decay of sweet lime (*C. limetta* Swing) by *penicillium italicum*

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Blue mold sweet lime (*Citrus limetta* Swingle) and sour lime *(Citrus aurantifolia)* caused by *Penicillium italicum* is a major post harvest decay in Fars province. To study the source of natural inoculum of the fungus, sweet lime fruits were harvested of two weeks intervals from Oct. 13 to Dec. 14, 1994 from an orchard in Jahrom, 190 kms far from Shiraz. Washed water from fruit surface in the above period, yielded colonies of *P.italicum* on acidified PDA which caused decay in sweet lime fruits only through wound. Wound healing on sweet lime and sour lime was evaluated using warm air (30°c and 80°c ±RH temperature of 20°c and atmospheric relative humidity served as controls) and water bath (25, 45, 55°c). Four wounds were made on fruit and each inoculated with 500 spores/μl of *P.italicum* and sour lime dipped in a spore suspension (10^6 spores/μl). In warm air treatment, superficial (2mm) and deep (5mm) wound were inoculated before or after 24-72hr treatment. In warm water treatment, deep wound inoculated fruits were kept at room temperature for 4-5hr and sipped in water bath at 25, 45 and 55°c for 2 and 5min.

Inoculated and non inoculated heat treated fruits were put in plastic bags with 24 holes and stored at 9°c and 86% ±1 RH. After 10 weeks storage decay was not observed in fruit inoculated with superficial wound before or after warm air treatment or in deep wound inoculated fruits before warm air treatment. Heat treatment using warm water at 25 and 45°c for 5 min also reduced decay significantly during storage. Generally heat treatment had no effect on curing of sour lime wounds. According to the present results, it is recommended to replace heat treatment for chemical treatment to control post harvest decay of sweet lime fruit during storage.