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Oil Spotting: The Main Problem to Solve in Persian Lime (*Citrus latifolia* Tanaka) Minimally Processed

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Abstract: Minimally processed produce is a very fast growing segment of the food industry. Wounding stress caused by processing operations such as peeling, cutting and grating induce metabolic activation, increasing enzyme activity, respiration rate and loss of firmness. In particular, in lime, the release of essential oils from the oil glands during processing causes oil spotting, the main limitation for fresh-cut limes. Even though, PPO enzyme activity has been detected in some citrus (orange and tangerine), there are no reports of PPO participation in flavedo browning during oil spotting in lime. The objective of the present study was to determine the PPO participation in the browning observed in fresh-cut Persian lime. Limes were cut in 8 wedges in a cold room at 10 °C. Different treatments were applied: a) cutting under water (CUW) at 4ºC and b) cutting under water at 4ºC with 4-hexilresorcinol and calcium lactate, individually or combined. Our results showed that the best treatment was cutting under water with calcium lactate, since it decreased oil spotting levels and damage in comparison to the other analyzed treatments. PPO enzyme activity was not detected in any of the applied treatments.

Keywords: Fresh-cut, Oleocellosis, Citrus, Acid limes

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