ESSENTIAL OIL FROM *Citrus grandis, Citrus aurantium* (L.) and *Citrus aurantifolia* PEELS (RUTACEAE) as ANTIBACTERIAL AND INSECTICIDES

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ABSTRACT

The compositions of essential oils (EOs) obtained by hydrodistillation of *Citrus grandis, Citrus aurantium* (L.) and *Citrus aurantifolia* were analyzed by GC-MS. According to GC-MS analysis, the three samples were found to be very rich in monoterpenes, and limonene was the major compound with 90.96, 84.92 and 33.33% respectively. EO of *C. aurantifolia* peels exhibited greater antibacterial activity (LC<sub>50</sub> = 233.71 ppm), followed by EOs from *C. aurantium* (L.) (LC<sub>50</sub> = 292.32 ppm) and *C. grandis* (LC<sub>50</sub> = 465.84 ppm). The larvicidal activities of peels essential oils from *C. grandis, C. aurantium* L. and *C. aurantifolia* were evaluated against larva of *Aedes aegypti*. Results of larvicidal tests demonstrated that the peel essential oils of *C. aurantium* (L.) was the most potent insecticide (LC<sub>50</sub> = 299.95 ppm), followed by Eos from *C. aurantifolia* (LC<sub>50</sub> = 719.87 ppm) and *C. grandis* (LC<sub>50</sub> = 955.64 ppm).

*Keywords:* essential oil, *Citrus grandis, Citrus aurantium* (L.), *Citrus aurantifolia*, BSLT, larvicidal.