

Fabrication of Porous Ceramics for Controlling the Release of Bioactive Compounds in Combating Bee Parasites in Bee Hive

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Porous ceramics are studied for natural extracts packaging application to control bee mites. Firstly, the amount of starting precursors such as cellulose (pore former) and PVP (surfactant) are varied to find the suitable preparing condition. The ratio of cellulose and PVP are affected by density and porosity of ceramic. The best ceramic condition is cellulose 10 g and PVP 3 cc with 90.54 % porosity. Second, the effects of lemongrass oil on *Varroa jacobsoni* and *Tropilaelaps mercedesae* mites are studied in laboratory scale. The % corrected mortality of *V. jacobsoni* mites and *T. mercedesae* mites were reported 100 %. However, controlled conditions have less than 25 % of corrected mortality. Finally, the effects of lemongrass oil on bees are studied. The lemongrass oil has no effects to bee population. The porous ceramics could be used to release lemongrass oil up to 30 days.

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