

Antioxidant activity of microencapsulated lemongrass (*Cymbopogon citratus*) extract

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Abstract	<p>Lemongrass is a plant with various bioactive components including alkaloids, flavonoids, tannins and essential oils; which is potential to be developed into natural preservative. However, the components are susceptible to the environmental conditions, such as temperature or oxygen contact. Formulation of lemongrass extract (LE) into powder form through microencapsulation, able to retain its stability over temperature or oxygen contact, moreover in the form of powder its application on food ingredients become flexible. This study aimed to assess antioxidant activity of microencapsulated lemongrass extract. This study used Randomized Block Design (RBD) with 18 treatment combinations and conducted in two replications. Factors examined in this study include; lemongrass extract concentrations (K); 25, 16.7 and 12.5%; microcapsule ingredients (P); maltodextrin and beta-cyclodextrin and heating temperature (T) of; 120, 130, and 140 degrees C. Result of the study showed that microencapsulation of 25% lemongrass extract using beta-cyclodextrin heated at 120 degrees C gave the highest antioxidant activity of 14.14% and the highest total phenol value of 34.64 mg/100gr. This study resulted that the use of beta-cyclodextrin produce microcapsule with better antioxidant activity.</p>
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