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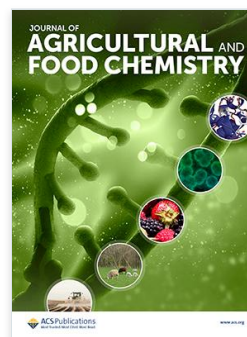
Flavor Retention of Peppermint (*Mentha piperita* L.) Essential Oil Spray-Dried in Modified Starches during Encapsulation and Storage

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Abstract

The effect of different commercial modified food starch carrier materials on the flavor retention of the essential oil (EO) of peppermint (*Mentha piperita* L.) during spray drying and storage was evaluated. The obtained results revealed that the emulsification and encapsulation efficiencies of peppermint EO were higher for all *n*-octenyl succinic anhydride (OSAN)-modified starches as compared to those of hydrolyzed starches (dextrins). The compositions of pure, emulsified, and encapsulated peppermint EOs in different matrices were quite similar; however, some changes in the percentages of some individual compounds were observed. Larger differences in the compositions of surface oils from various encapsulation products were obtained. Flavor components were released at different rates by each of the

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Keywords: Peppermint; *Mentha piperita* L.; essential oil; microencapsulation; spray drying; aroma retention; flavor release; water activity; DHS; SHS; GC; GC-MS

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