

EFFECT OF FLAVOUR LOAD AND INLET AIR TEMPERATURE ON MICROENCAPSULATION OF VANILLA EXTRACT WITH MALTODEXTRIN AS WALL MATERIAL

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ABSTRACT

Microencapsulation of vanilla extract with maltodextrin as wall material to protect the vanillin compound (major aroma composition of vanilla) against its highly volatile and heat sensitive nature by spray drying technique was studied. The effect of predominant process variables, the flavor load and spray drier inlet air temperature, were evaluated. The wall material maltodextrin was emulsified with 10, 20 and 30% of vanilla extract (flavor load) with 50% solid content and spray dried at inlet temperatures of 170, 180 and 190⁰C. The encapsulated powder characteristics were found and analyzed. The encapsulation efficiency increased with increase in temperature and decreased with increase in flavor load. The study concluded that the microencapsulation of vanilla extract with maltodextrin as wall material and a flavor load of 10% spray dried with an inlet air temperature of 190⁰C showed higher encapsulation efficiency and produced superior quality encapsulated powder and therefore found to be optimum process parameters.

KEYWORDS: Encapsulation Efficiency, Maltodextrin, Microencapsulation, Vanilla Extract