

The Effects of Drying Technology on Rehydration Time and Quality of Mung Bean Vermicelli

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Abstract : Mung bean vermicelli is a popular food in Asian countries and is made from mung bean starch. The preparation process involves several steps, including drying, which affects the structure and quality of the vermicelli. This study aims to examine the effects of different drying technologies on the rehydration time and quality of mung bean vermicelli. Three drying technologies, namely hot air drying, microwave continuous drying, and microwave vacuum drying, were used for the drying process. The vermicelli strands were dried at 45°C for 12h in a hot air dryer, at 70 Hz of conveyor belt speed inverter in a microwave continuous dryer, and at 30 W.g⁻¹ of microwave power density in a microwave vacuum dryer. The results showed that mung bean vermicelli dried using hot air drying had the longest rehydration time of 12.69 minutes. On the other hand, vermicelli dried through microwave continuous drying and microwave vacuum drying had shorter rehydration times of 2.79 minutes and 2.14 minutes, respectively. Microwave vacuum drying also resulted in larger porosity, higher water absorption, and cooking loss. The tensile strength and elasticity of vermicelli dried using hot air drying were higher compared to microwave drying technologies. The sensory evaluation did not reveal significant differences in most attributes among the vermicelli treatments. Overall, microwave drying technology proved to be effective in reducing rehydration time and producing good-quality mung bean vermicelli.

Keywords : mung bean vermicelli, drying, hot air, microwave continuous, microwave vacuum

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