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Preservative effects of allicin microcapsules on daily foods

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ABSTRACT Allicin microcapsules feature seasoning, health care and drug functions, moreover they possess high water solubility and strong stability. In this study, preservative effects of the microcapsules on daily foods including tofu, bread, cooked chicken and cooked pork, were revealed for the first time. When the four foods were treated with the microcapsules, their *DI* (disease index) values decreased greatly; once their effective antifungal concentrations were above 0.045%, their *DI* values were zero and there was no mold growth on the four foods. Even if they were boiled for 0.5h, their effective antifungal concentrations only increased to 0.050%. When the microcapsules after the severe heat treatment were applied to the foods, their reduction rates of mold spores (R_m) increased only between (14.5±1.1)% and (26.3±2.7)%, which suggested that a large amount of the microcapsules still kept excellent actual fungicidal effects after the heat treatment. As a novel preservative, the microcapsules were effective, safe and worthy of exploitation, and had potential applications in the preservative of food.

Keywords: Allicin; Microcapsule; Preservative; Antiseptic; Disease index

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