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Studies on encapsulation of green tea catechins

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Green tea is rich in polyphenols and other phenolics that have been widely reported to have beneficial health effects. However, dietary polyphenols are not completely absorbed from the gastrointestinal tract and are metabolized by the gut micro flora so that they and their metabolites may accumulate to exert physiological effects. The aim of the study is to develop functional food by incorporating the tea catechins and probiotics bacterium *Lactobacillus acidophilus* culture. The crude catechin is extracted from green tea leaves, prebiotic activity is analyzed for crude catechin which inhibits the growth of *E. coli*, *Salmonella enteritis* and enhances the growth of the probiotics bacterium. The catechin and probiotic bacterium is encapsulated using the technique of emulsification with sodium alginate and calcium chloride and the microcapsules are dried using spray drying and freeze drying techniques. The storage studies of dried micro capsules were conducted in accelerated conditions (4°C, 37°C and 45°C). The results conclude that the encapsulated catechin and lactobacillus acidophilus micro capsules are more stable in freeze dried form and have prolonged shelf life stored at 4°C compared to spray dried powder.

Biography

P. Sudha has completed Ph.D. in Food Agricultural Process Engineering. She is the Associate Professor in the Department of Food Processing and Preservation Technology, Avinashilingam University, Coimbatore, India (employed since 1999). She has completed 2 funded projects and 5 international publications in reputed journals and serving as an editorial board member of reputed Indian Journal, Journal of Tropical Agriculture. She has recently developed a machine for soan pappi making, a traditional sweet of India and few other countries where the process is done so far manually.

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