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Fructans powder from Shollot (*Allium ascalonicum* L.)

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Fructans are Fructooligosaccharides (FOS) and inulin that are functional food ingredients as prebiotics. It was found in varieties of the plant, starchy roots, fruit, and vegetables. The effects of heat pump drying and extract conditions on fructans content were investigated. The results showed that fructans content in dried shallots reduced from fresh shallot to 21.22 % and 18.22 % dry wt. after drying until constant moisture content for 21 and 18 hours at 45 and 50^{0}C respectively. For extraction, the effect of four solvents, water, 70% v/v ethanol, 500 mg/L $CaCO_3$ and 500 mg/L $CaCO_3$ in 70% v/v ethanol were investigated for three types of onion-like bulb viz. onion, red onion, and shallot. The appropriate solvent that had the highest ability to extraction fructans was water and the fructans content in shallot was higher than red onion and onion that were 8.105±0.185, 6.225±0.081 and 0.034±0.005 % fresh wt. respectively. The optimal ratio of shallot and water was 20:100. Afterward, the fructans extract were dried by spray drying. Fructans powder was pale yellow to light pink, low water activity, and individual shallot flavor. Moreover, it had total fructans content 46.76% that like fructans content in commercial fructans from chicory root.

Biography

Wimonwan Wattanawichit has been a Research Scientist in Department of Agriculture, Government of Thailand in the sector of Crop Processing Research and Development since 2009. Her research interests relate the bioactive ingredient in neutracentrical and cosmeceutical products such as prebiotics agent, a phenolic compound, essential oil, antioxidants. Recent research projects were "Fructooligosaccharide from microbial enzyme and application in fruit juice beverage, evaluation of phenolic compounds and antioxidant activity in functional food processing from corn".

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