

Title Study on the Ultra-high Pressure Extraction of Polysaccharides from Litchi Fruit
Author Zong Wei and Ma hanjun
Citation Program and Abstracts, 3rd International Symposium on Longan, Lychee and Other Fruit Trees in Sapindaceae Family, August 25-29, 2008, Fuzhou, China. 132 pages.
Keywords litchi; polysaccharide

Abstract

Polysaccharides is one of the important composition in litchi. Extraction polysaccharides from litchi was a good ways to make use of litchi. Many methods have been used to extract polysaccharides from litchi, such as soxhlet extract, ultrasound-assisted extract (UAE) and microwave-assisted extract (MAE). Ultrahigh pressure extract (UPE) technology was a novel extraction technology which extract plants compound in normal temperature. In this paper, the extract of litchi polysaccharides by UPE was studied. Base on the monofactorial test, the optimum extraction conditions were made by using L9(34) orthogonal design with extraction yield of litchi polysaccharides as index., investigating the influence of UPE pressure, UPE time, grinding degree and the ratio of materials mass to solvent volume. The optimum experimental parameters were determined as follows: UPE pressure 420MPa, UPE time 5min, grinding degree 80 mesh and the ratio of materials mass to solvent volume 1:15 (g:mL). The result was analysis by variance test and showed that UPE time has significance influence on extraction yield. The polysaccharides yield of UPE method, soxhlet extract, UAE method and MAE method were 8.11%, 4.86%, 6.43% and 5.56%, the extraction time were 5 min, 360 min, 10 min and 10 min respectively. UPE is a better method for extraction polysaccharides from litchi for it has a higher yield in shorter time.