Tea Institute
Mae Fah Luang University
333 Moo.1 Tasud, Muang, Chiang Rai, Thailand 57100
E-mail: tea-institute@mfu.ac.th Tel/ Fax: 053-91-6253

Research Project	Stability of white tea extract in liquid state	
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Research Team	Nguyen Thi Hoai Thu	Food Technology Program, School of Agro–Industry
	Theerapong Theppakorn	School of Agro–Industry

Abstract

The study was carried out to investigate the stability of white tea extract (WTE) in liquid state. Initially, the chemical compositions, including moisture content, total polyphenol content (TPC), total catechins content (TCC), caffeine content (CF) and eight catechins of WTE in solid state were determined. The result showed that WTE had TPC of 34.46±0.4 GAE g/100g DW. TCC and CF were 26.71±0.98 g/100g DW and 5.37±0.19 g/100g DW, respectively. WTE contained 8 catechins. Among quantified catechins, the most abundant catechin was EGCG (8.5 g/100g DW). The stabilities of different concentrations and pHs of WTE in liquid state were investigated. The stability under an incubation at temperatures of 4 and 25°C were also investigated. The highest stability was found when WTE had the concentration of 20 mg/ml and storage at 4 °C. The pH greatly affected the stability which the pH value of 3 provided the highest stability. The effect of ascorbic acid and sucrose on the stability was then checked. It was found that WTE added with sucrose did not improve the degradation of catechins, while WTE added with ascorbic acid had a good stability. The results from this study suggests that when the drink containing catechins are developed, concentrations of tea extract, pH of the drink and the addition of vitamin C should be concerned in order to make the highest stability product.

Keywords White tea extract, stability, catechins