

Development of instrumental methods for textural evaluation of chili paste

Abstract

Chili shrimp paste (CSP) is a traditional Southeast Asian condiment. It is a semi solid suspension that contains chunky chili pieces. The textural characteristics of the paste are important quality parameters for most CSP lovers because they prefer pastes with a certain degree of thickness and chunkiness. Unfortunately, there is no standard methodology available to evaluate the textural properties of these pastes. Various samples of CSP were prepared and evaluated using sensory, texture analyzer and rheometer measurements. The results from instrumental evaluation were consistent and comparable to sensory data. Texture analysis using the back extrusion method (spherical probe and cylinder) was found to be suitable for textural quantification of CSP. The $\tan \delta$ values measured using a vane-in-a-large-cup rheometer using an oscillation frequency sweep at 20 Hz correlated well with the sensory results, indicating that this method could effectively distinguish differences in CSP samples with different rheological properties. Both instrumental methods can be applied as quality control tools for CSP products.

Keyword: Chili shrimp paste; Sambal belacan; Sensory; Texture; Heritage food