Quality changes of stabilizer-free natural peanut butter during storage

ABSTRACT

The storage stability of preservative-free peanut butter was evaluated for changes in physicochemical quality including moisture content and water activity, microbiological properties, oxidative stability and textural quality in terms of spreadability and firmness. The study was conducted for 16 weeks at storage temperature of 10, 25 and 35 °C on natural and pure peanut butter produced from two varieties of peanuts, the Virginia and Spanish TMV-2 varieties of China and India origin, respectively. The peanuts were ground using a high speed grinder for 2.5 and 3.0 min to produce peanut butter without addition of other ingredient. The natural peanut butter exhibited stability and had acceptable microbial count during storage. Storage at 10 °C gave similar textural quality with commercial product until week 8 and without appreciable loss in oxidative stability until week 12. At higher storage temperatures of 25 and 35 °C, oxidative stability was shortened to 4 weeks of storage. Among the factors of storage temperature and time, grinding time and peanut variety, storage temperature had the most significant effects on quality changes of natural peanut butter.

Keyword: Microbial count; Natural peanut butter; Oxidative stability; Physicochemical properties; Storage; Textural quality