

## **Changes of phytosterols, rheology, antioxidant activity and emulsion stability of salad dressing with cocoa butter during storage**

### **ABSTRACT**

Addition of phytosterols and antioxidants to food may provide additional health benefits to consumers. Their stability in a food matrix may decrease during storage. Therefore, the objectives of this study are to formulate a salad dressing with cocoa butter and determine its phytosterol stability, antioxidant activity and physicochemical properties during storage. The cocoa butter was extracted using a supercritical CO<sub>2</sub> extraction (green technology) and added to the formulated salad dressing (containing different ratios of cocoa butter and soybean oil). The salad dressing with 30 % cocoa butter (the most stable emulsion) was selected for storage study at 4 and 30 °C. However, values of physicochemical parameters and mass fractions of phytosterols, total phenolic compounds (determined using Folin-Ciocalteu reagent) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) in the salad dressing with 30 % cocoa butter decreased during storage (from day 0 to 28) and increased with the temperature increase, probably due to the oxidation of oil. Thus, the most desirable storage temperature for salad dressing was 4 °C. An excellent stability of the salad dressing with 30 % cocoa butter at different storage temperatures for 28 days offers a potential application in food industries for production of salad dressing with cocoa butter enriched with phytosterols.

**Keyword:** Phytosterols; Antioxidant activity; Cocoa butter; Salad dressing; Soybean oil; Physicochemical characteristics