

Changes in oxidation indices and minor components of low free fatty acid and freshly extracted crude palm oils under two different storage conditions

ABSTRACT

This article reports on the changes of oxidation indices and minor components of low free fatty acid (FFA) and freshly extracted crude palm oils after storage at ambient (28 ± 1 C) and 60 C for 77 days. The changes in peroxide value (PV), FFA, extinction coefficient at 233 and 269 nm (K 233 and K 269), bleachability index (DOBI), carotene and vitamin E contents were monitored. PV, FFA, K 233 and K 269 of both oil samples increased as storage progressed while the values of carotene and vitamin E contents decreased. At the end of storage period at 60 °C, the carotene content of low FFA crude palm oil was 4.24 ppm. The storage conditions used led to the loss of entire vitamin E fractions of both oil samples as well as a reduction in DOBI values except for freshly extracted crude palm oil stored at ambient temperature.

Keyword: Low free fatty acid; Freshly extracted; Crude palm oil; Storage; Oxidation indices; Vitamin E