



OXIDATIVE STABILITY OF MAYONNAISE PREPARED USING VIRGIN COCONUT OIL/FISH OIL BLEND

Umesh Patil¹ and Soottawat Benjakul^{1✉}

¹Department of Food Technology, Faculty of Agro-Industry,
Prince of Songkla University, Hat Yai, Songkhla, Thailand, 90110

✉soottawat.b@psu.ac.th

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ABSTRACT

Chemical changes in mayonnaise prepared using virgin coconut oil (VCO)/ fish oil (FO) blends at different ratios (95:5, 90:10, 85:15, v/v) were monitored throughout 30 days of storage at ambient temperature in comparison with the mayonnaise prepared using soybean oil (SO). Free fatty acid contents in all mayonnaise were increased after the storage of 30 days. Peroxide value, thiobarbituric acid reactive substances, ρ -anisidine value and total oxidation values of mayonnaise prepared using VCO were lowest during the storage, indicating the highest oxidative stability among all samples. Lipid oxidation was increased with extended storage time and higher level of FO added in mayonnaise. Highest lipid oxidation took place in mayonnaise containing SO after the storage of 30 days. At day 0, linoleic acid (50.07%) was the dominant fatty acid in SO containing mayonnaise, whereas lauric acid (47.05%) was predominant in VCO containing mayonnaise. Docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) were found in mayonnaise prepared using VCO/FO blends. Lauric acid, myristic acid, EPA and DHA were decreased in all samples after the storage of 30 days. Volatile compounds, mainly hexanal, were increased after storage of 30 days. Mayonnaise prepared from VCO/FO (90:10) blend had no differences in sensorial property with that containing SO. Thus, VCO/FO (90:10) blend could be used to prepare mayonnaise with health benefit and the increased oxidative stability.