

Improving of some Less Stable Edible Vegetable Oils by Blending with Roasted Sesame Seed Oil

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Recently, there is an increasing interest in replacing synthetic antioxidants with natural compounds having antioxidative activities, because of the world wide trend to avoid or minimize the use of synthetic food additives. Roasted Sesame seed oil extracted by cold pressing (RSSO) is very stable due to the presence of a number of natural antioxidants (sesamin, sesamol and sesamol). Therefore, it has a long shelf-life and can be blended with less stable edible oils to improve their stability. In this work, blends of different ratios of RSSO (10, 20 and 40) with soybean or sunflower oils were prepared and evaluated for their oxidative stability. The evaluation included the measurement of physico-chemical properties such as peroxide value, free fatty acid, iodine value, color index, refractive index, Rancimat induction period and fatty acid composition. Protective factors as well as Cox value were calculated. In addition, total phenolics content of sesame oil blends and their antioxidant scavenging activity by DPPH free radical, were evaluated. The results showed that the addition of RSSO especially 20 and 40% to either soybean or sunflower oils improved the antioxidation property of the oil blends. Thus, the blends of these two edible oils with roasted sesame seed oil showed nutritional merits with improved stability for domestic cooking and heating purposes.

Keywords: phenolics, roasted sesame seed oil, blending, natural antioxidant, oxidative stability.