ABSTRACT

Physical and chemical properties of groundnut oil and mustard oil are studied at different concentrations of two antioxidants Tocopherol and Tert- Butyl Hydro Quinone (TBHQ). Classification of vegetable oils in terms of their usage safety, stability in transport, easy reuse characteristics and overall health benefits is vital to categorize them for quality. Hence, to increase the shelf life of oil in cooking and pipelining, vegetable oils are added with different concentration of antioxidants to improve the permanence. Properties like viscosity, relative density, electrical quality factor and acid value are analyzed with the addition of antioxidants. Variation of viscosity with temperature for different concentration of oil was observed. Empirical equations like Wright.s ASTM Equation and Akerlof - Oshry.s relating viscosity with temperature are computed and compared and Wright model (R2= 0.999-0.995) is highly correlated. The experiential value of relative density and acid value show good variation with the addition of tocopherol even below 10 mg/100 mL and random variations with TBHQ. The present study also states that addition of TBHQ to groundnut oil do not produce any synergistic effect with the antioxidant in the oil and also do not impede the oxidation reaction effectively.