COMPARISON OF OXIDATIVE STABILITY OF SESAME (*SESAMUM INDICUM*), SOYBEAN (*GLYCINE MAX*) AND MAHUA (MEE) (*MADHUCA LONGIFOLIA*) OILS AGAINST PHOTO-OXIDATION AND AUTOXIDATION

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ABSTRACT

Lipid oxidation is one of the major causes of food spoilage. This study was conducted to evaluate and compare the oxidative stability of Sesame (*Sesamum indicum*), Soybean (*Glycine max*) and Mahua (*Madhuca longifolia*) against photooxidation and autoxidation. Stability of oils against photo-oxidation and autoxidation was determined by exposing the oils to florescent light over 28 days and storing the oils at an elevated temperature (60 °C) for 28 days, respectively. The level of oxidation was determined by measuring peroxide value (PV), thiobarbituric acid reactive substances (TBARS), conjugated dienes (CD) and conjugated trienes (CT). Sesame oil exhibited the strongest oxidative stability against both photo-oxidation and autoxidation while Mahua oil exhibited the least stability highest both photo-oxidation and autoxidation as measured by primary oxidative products. However, Mahua oil showed the strongest stability against both photo-oxidation and autoxidation as measured by secondary oxidative products. In conclusion, higher oxidative stability was shown by the Mahua oil than sesame and soybean oils for photooxidation and autoxidation.