

FORCED OXIDATION OF SUNFLOWER OIL

Student: Crina GUȚU ,
Coordinating Professor: Prof. Ph. Iurie SUBOTIN.
Faculty of Food Technology,
Technical University of Moldova, Republic of Moldova

Abstract:

This article investigates the processes that take place during the forced thermo-oxidation of sunflower oil. The results obtained in the study showed a major impact of thermo-oxidation on the physico-chemical indicators of the studied oil. The acidity index of fresh sunflower oil increased 13.7 times, with a value of 2.46 mg KOH/g of fat for the thermo-oxidized oil compared to the initial value of 0.180 mg KOH/g of fat. The thermo-oxidation of sunflower oil caused a significant decrease of the saponification index, which indicates a significant degree of polymerization and leads to viscosity increase of the studied sunflower oil. The accumulation of hydroperoxides and triacylglycerides that have hydroxyl functions have facilitated the course of polymerization reactions, which are to increase the viscosity of thermo-oxidized studied sunflower oil.

Key words: acidity index, oxidation, peroxide index, saponification index, sunflower oil, thermal oxidation.