

Influence of Transesterification on Minor Components in Vegetable Oils

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Biodiesel derived from vegetable oils or animal fats became an important alternative fuel of our century.

Stability of the biodiesel is affected primarily by the chemical nature of the fatty acids involved, as reflected in their degree and type of unsaturation. However, minor components present in the biodiesel also exert a major influence on their stability characteristics.

The minor constituents of the oils include tocopherols and tocotrienols, phenolics, phytosterols, carotenoids, chlorophylls. The presence of minor components in biodiesel has an influence on the quality characteristics.

In this study the initial content of minor components, especially sterols, tocopherols, tocotrienols and carotenoids was determined in crude palm oil, palm kernel oil, in cold pressed rapeseed oil, soybean and sunflower oil.

An appropriate transesterification process was selected for each of these oils and the influence of the process in the minor components was studied in detail.