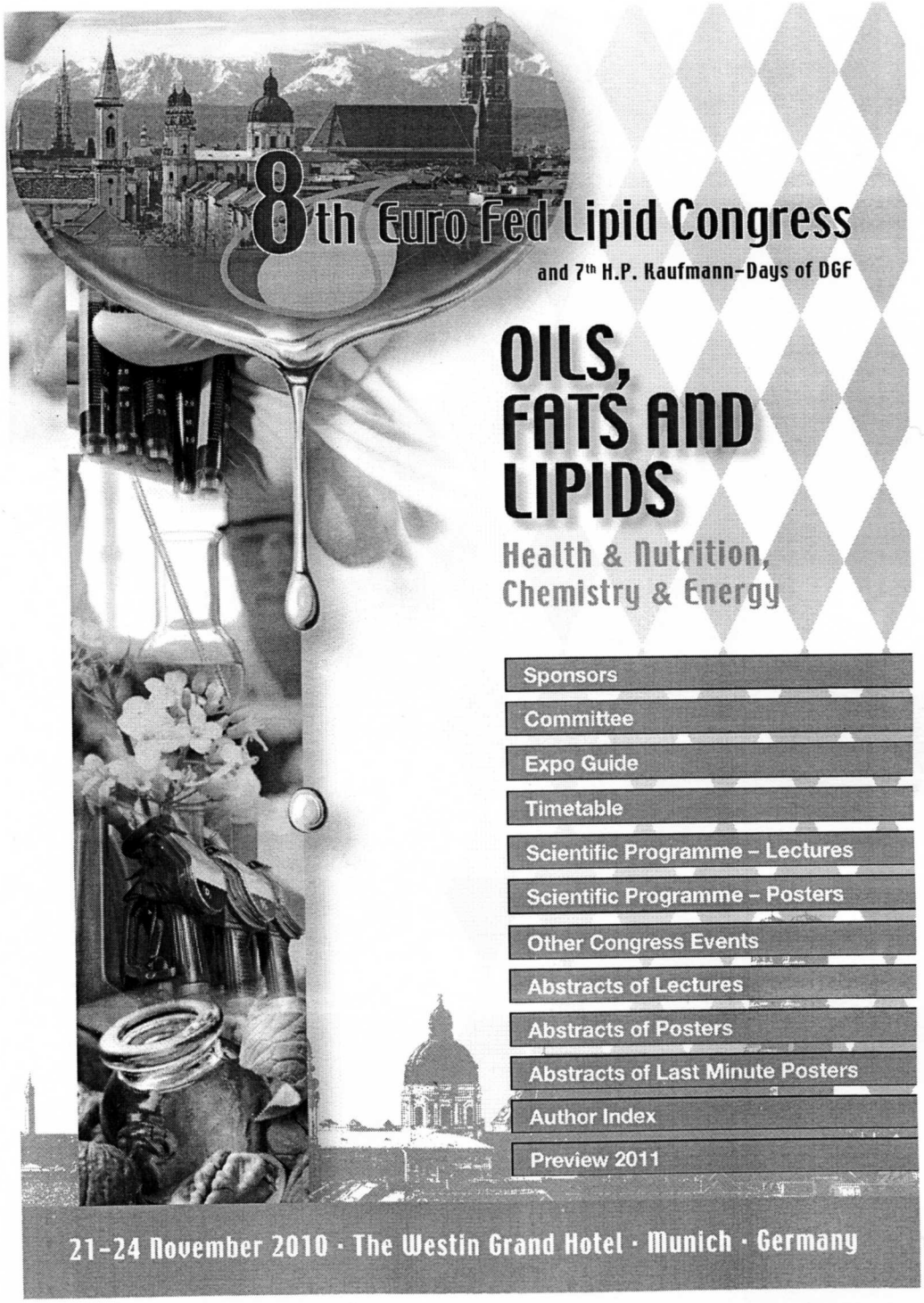
8th Euro Fed Lipid Congress
and 7th H.P. Kaufmann-Days of DGF
OILS, FATS AND LIPIDS
Health & Nutrition, Chemistry & Energy
Sponsors
Committee
Expo Guide
Timetable
Scientific Programme – Lectures
Scientific Programme – Posters
Other Congress Events
Abstracts of Lectures
Abstracts of Posters
Abstracts of Last Minute Posters
Author Index
Preview 2011
21-24 November 2010 · The Westin Grand Hotel · Munich · Germany

Poster, Last Minute
LAMI-019

Oxidative Stability of FAME Extracts of Black Currant

Inese Mierina[*], Alina Bondarevska[*], Dalija Seglina[$], Mara Jure[*]
[*]Riga Technical University, Riga, Latvia
[$]Latvia State Institute of Fruit-Growing, Dobele, Latvia

Black currant (*Ribes nigrum*) berries are a very rich source of variable natural antioxidants, mainly polyphenols. Nevertheless, antioxidant effect of extracts of other parts of plant (buds, pomace and seeds) is by-ways of learning.

We have worked out methods for preparation of lipophilic extracts of above mentioned black currant parts and studied oxidative stability of these extracts. Vegetable oils became popular as "green solvents" within last years. Nevertheless, their high viscosity bothers extraction procedure. We used methyl esters of fatty acids (FAME) as solvents to overcome these difficulties.

FAME extracts of black currant buds, seeds and pomace were prepared by maceration of plant material overnight. Methyl esters of hempseed and flaxseed oils were used for this purpose. The obtained extracts were examined for their oxidative stability and compared with blank sample (corresponding FAME). It was found out that all our samples exhibit some slight increase of the oxidative stability. We have established that some extracts of black currant demonstrate antioxidant-prooxidant effect depending on the amount of plant material used for preparation of the extract.

It was clarified that obtained FAME extracts of black currant buds, seeds and pomace exhibit higher oxidative stability in comparison with other extracts prepared using corresponding vegetable oil or purified vegetable oil (washed with phosphoric acid). An important decrease of oxidative stability in comparison with a blank sample was detected in case of oil extracts of plant material.

There are many examples of application of biodiesel as environmentally benign solvent or co-solvent (for polymerization, printing ink removal, paint stripping, metal degreasing, oil spill clean-up, resin removal and as nail polish remover, hand cleaner, etc.). The stabilization of biodiesel by addition of natural antioxidants has been described recently, but application of FAME as a solvent for extraction of natural antioxidants from plant materials to the best of our knowledge has been demonstrated for the first time. Such "green" antioxidant extracts with improved oxidative stability could be used for cosmetics and health-care products.