Recent Developments, New Trends in Seed Crushing and Oil Refining
Katalin Kövári, Bunge Europe Research and Development Center
Budapest, Hungary

Oil processing was considered as a slowly changing „traditional” industry, but the recent decades’ developments and trends resulted in a lot of changes initiated by market, industry, environment protection and consumers needs.

First, the centralization of the industry resulted in high capacity, one-line production plants which needed new developments in equipment and automation.

Secondly, more and more concerns of environment protection forced the operators to reduce the environmental impacts (waste water, solid waste, air pollution). This initiated the development and application of mild processes like physical refining.

Thirdly, the food/feed safety issues became the most important question after suffering several crises in Europe. Contaminants removal and keeping the nutritional value of the oils during the processing has become crucial.

Last but not least, the research and development activity together with the improving analytical capabilities enabled us to understand better the details of applied processes, the effect of the whole procedure from growing/harvesting/transport/storage/crushing/refining on the quality of the final product.

The presentation gives an overview on
- the effect of seed pretreatment and crushing conditions on the crude oil quality,
- the criteria of applicability of physical refining of seed oils,
- solutions for proper degumming,
- the importance and role of bleaching and active carbon treatment,
- the proper practice of deacidification/deodorization,
- the on-line control possibility.