

Technological Innovations in the Vegetable Oil Industry and their Relevance on Oil Quality, Food Safety and Environmental Sustainability

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Vegetable oil production is growing with about 1% every year to reply to the increasing food demand. For 2024/25 it is forecasted that vegetable oil production will grow with 2.7 Mio MT to 224 .2 Mio MT while demand grows even with 5.3 Mio MT to 221.7 Mio MT. Population growth, increasing living of standard and global climate concern are forcing the food industry to improve its processing routes while mitigating contaminants and reducing its carbon footprint. Many ongoing developments are therefore focused on improving the food quality, safety and sustainability.

The increasing consumers concern about what they eat is pushing the industry to continuously improve the quality and safety of edible oils in human food but also in animal feed. Most animal fats and waste oils like used cooking oils and refinery side streams like fatty acid distillates are now processed into biodiesel and HVO,

Consumers today want food oils with lowest possible contaminants: low in trans fats, glycidyl esters, MCPD's, PAHC's, MOSH and MOAH but with preservation of the nutritional quality. Refining processes are therefore constantly improved, and new solutions developed to protect and where possible enhance the quality and safety of the edible oils.

Global climate changes are forcing every industry to lower its carbon footprint, requiring the processes to become more energy-efficient and where possible reducing the use of chemicals and waste streams.

For the technology providers, it is an ongoing challenge to develop more energy-efficient and more sustainable technologies while for the edible oil processors the focus is on delivering to its consumers a more healthy and safer food oil.