

Oils and Fats Processing: Process Optimization and Sustainability

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In today's competitive business environment, where sustainability is on top of mind for processors and consumers alike, it is imperative to work on optimizing the processes and implementing new technologies to reduce carbon footprint and improve food safety. Basic principles of Oils and Fats processing have not changed much, but the techniques improve over the time to achieve higher quality requirements alongside processing cost effectiveness!

Processing efficiency is one of the major concerns for viability of the process operations. The efficiency is counted on various accounts like, energy consumption, chemicals consumption, quality produced, byproducts generated and their quality too, waste generation and their treatment and final disposal!

Nowadays, the impact of processing operations on surrounding areas is of prime concern as it directly relates to human safety whether in a longer or short run. So, it requires a systemic disposal arrangement of wastes generated during processing.

Utilization of waste heat to its fullest – e.g. in bleaching process, while steam blows off filters during their cleaning operations, generally that steam is allowed to vent to the atmosphere. But medium and higher capacity oil refining plants must use that energy in a regenerative way for utilities and OR product heating by designing the appropriate systems. Nowadays, the said systems are in use at various places and can be made as must for the process!

The value addition to the byproducts generated particularly deodorizer distillates during oil refining operations which constitute micronutrients like tocopherols, tocotrienols along with FFA as a major constituent. These minor constituents can be separated while deodorization processes itself by having a system to separate these two by dual **scrubbing system**. This adds value to both the parts micronutrient rich (toco rich) & FFA rich results in better pricing.

The Presentation discusses these subjects more elaborately, which will be beneficial to processors as well as system suppliers!