

A New Strategy for Edible Vegetable Oils Production

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Processes and technologies used for the extraction and refining of the vegetable oil have not changed considerably for a long time, even though consumer preference has changed rapidly from the refined oils towards virgin oils in recent years. Based on the investigations especially conducted on the health effects of oils, on the frying oil chemistry, and by the fast sharing and distribution of information obtained through the internet, consumers can choose now their salad and cooking oils according to the fatty acid compositions, to the health promoting effects as well as their taste, aroma and color.

Cold-pressed and virgin oils are edible vegetable oils obtained by mechanical procedures, such as expelling or pressing from oil seeds without altering the chemical composition of oil, and can be consumed without being refined. These kind of oils are considered as specialty oils, because only small and medium size mills produce them in small amounts for gourmet and health market from very different oil seeds, even very sophisticated ones such as carrot, parsley, or onion seeds.

In order to meet consumer's demands, bulk production of virgin or cold pressed oils should be accomplished from commodity oil seeds, such as rapeseeds, at the reasonable prices. This circumstance depends on many conditions like having always good quality seeds, producing the pressed oil with higher yield, etc.

In this presentation, after given a brief information on conventional canola oil extraction and refining methods as well as minimal refining method which have developed to improve the nutritional profile of canola oil, the challenges of producing high-quality virgin rapeseed oil will be discussed. The results of ultrasound- assisted alcoholic pretreatment of canola seeds which was tried to increase pressed oil yield by cell damages and to decrease FFA of oil by lipase inactivation will be given, together with the conventional heat pretreatment results.