PROCEDURE FOR THE PRODUCTION OF OLIVE OIL OF HIGH ORGANOLEPTIC AND NUTRITIONAL QUALITY

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PATENT STATUS: GRANTED

PRIORITY NUMBER: 2010RM00617

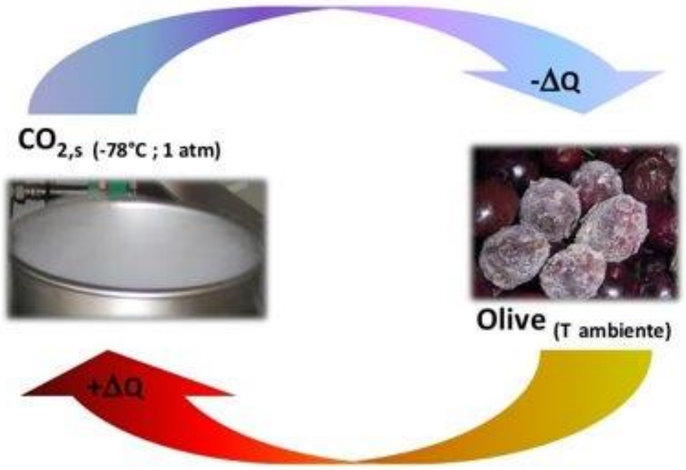
PRIORITY DATE: 26/11/2010

Invention

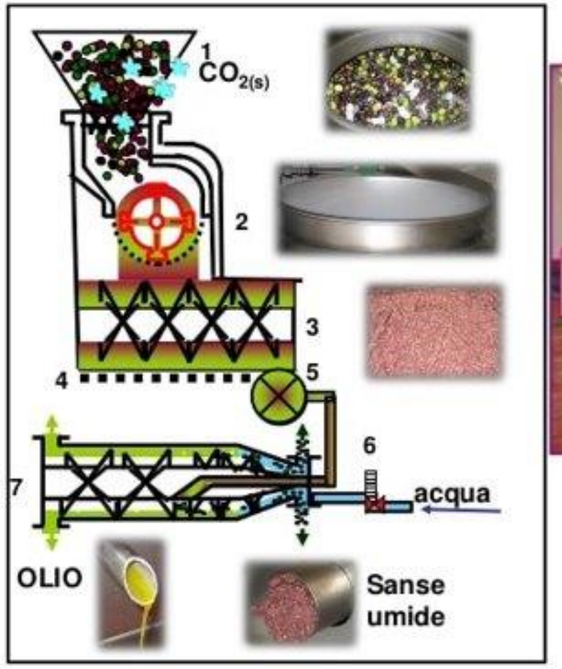
The present invention concerns a method for the production of olive oils, especially extra virgin, enriched in cellular compounds extracted from the fruit and, in particular, in components with aromatic and antioxidant activity, with a consequent significant increase in their organoleptic and nutritional quality, which provides for the use of a non-toxic and organoleptically inert cryogen during the process of oil extraction from olives.

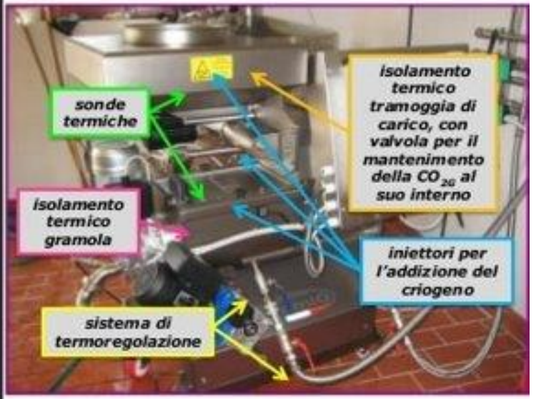
For the extraction is used "carbonic snow", that is carbon dioxide in solid state. Solid carbon dioxide causes the freezing of the water present inside the fruit and the formation of ice crystals which in turn cause the collapse of the cellular structure of the pulp, facilitating the release of substances and their transfer into the oil, which is thus enriched in cellular metabolites of high biological value. In addition, carbon dioxide gas is heavier than air and therefore tends to remain above the olive paste being processed, creating a gaseous layer capable of avoiding direct contact with the oxygen in the air and thus preserve the cellular constituents from oxidative degradation.

Drawings & pictures



Apparato sperimentale utilizzato





Industrial applications

Olive oil producers should be interested in the innovation introduced by the new technology. The increase in yield makes it economically viable an early harvest of olives, which, being less mature, will be richer in water and bioactive components (polyphenols, tocopherols), while limiting the damage caused by attacks of Bactrocera oleae (the olive fly), one of the most feared adversities by operators in the sector, able to significantly affect both the yield and the quality of the oil produced.

The method also allows to obtain an oil richer in antioxidants and aromatic components, the oil obtained is more closely linked to the raw material used, the type of olives processed and their production area, and therefore looks like a typical product characterized by clear and unmistakable organoleptic characteristics more easily recognizable and identifiable by the consumer.

Possible developments

The higher yield (on average 9% more, i.e. 17.4 kg of product instead of 16 kg per quintal of olives), the better nutritional quality of the oil (for example, it contains on average 6% more vitamin E) and the greater resistance to oxidative processes (which translates into a longer shelf life than oil obtained using conventional technologies) make the technology attractive to olive oil producers.

The research team is interested in collaborating with industrial partners to increase the technological maturity of the invention and to consider licensing the patented technology.

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