

Sulla determinazione dei tocoferoli, tocomonoenoli, tocodienoli, tocotrienoli e loro esteri negli oli vegetali*

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Determination of tocopherols, tocomonoenols, tocodienols, tocotrienols and their esters in vegetable oils

Usually, the term vitamin E indicates a group of compounds that have vitaminic and antioxidants properties, known as Tococromanols. The most widely known in this group of substances are the tocopherols and tocotrienols.

Since the mid-90s, also the monounsaturated derivatives Tocomonoenols were reported in several vegetable oils, as well as Tocodienols, diinsaturated derivatives of Tococromanols. The study investigated the tococromanol composition of some special oils used not only in food, but also in cosmetics. This is the case of Argan, Kukui, Sacha Inchi, and Prickly Pear oil.

It is definitely worth noting that Tocomonoenol is quantitatively the second Tococromanol in oils in which there is only one Tocopherol majority (> 90%), as in the case of Extra Virgin Olive Oil, Palm, Sunflower, Safflower, Kukui, etc.

Alongside these forms, we also highlighted ester derivatives of tocopherols and tocotrienols, primarily in palm oil, but small amounts were also found in olive oil.

It was interesting to identify of Tocomonoenolics and Tocodienolics forms, that are isomeric between them.

In refined palm oil were found different isomers of tocotrienols, and such isomerism is probably due to the action of bleaching earth on the double bonds present in the alkyl chain.

Besides the nutritional aspect, it is interesting to observe how Tococromanols esters can be used as markers to detect possible fraud since, due to their molecular size, they are unlikely to be removed during the refining process.

() Quanto riportato nel presente lavoro
è frutto di esperienze condotte presso
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