Cloves are the best natural antioxidant

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Cloves are the best natural antioxidant. Credit: SINC

Using spices eaten in the Mediterranean diet as natural antioxidants is a good way forward for the food industry, given the beneficial health effects of these products. This has been shown by researchers from the Miguel Hernández University (UMH), who have put the clove in first place.

Researchers from the Miguel Hernández University have identified cloves (*Syzygium aromaticum*) as the best antioxidant spice, due to the fact they contain high levels of phenolic compounds, as well as having other properties.

"Out of the five antioxidant properties tested, cloves had the highest capacity to give off hydrogen, reduced lipid peroxidation well, and was the best iron reducer", Juana Fernández-López, one of the authors of the study and a researcher at the UMH, tells SINC.

As a result, the research study published in the latest issue of the *Flavour and Fragrance Journal* ranks this spice as the best natural antioxidant.

"The results show that use of the natural oxidants occurring in spices used in the Mediterranean diet, or their extracts, is a viable option for the food industry, as long as the organoleptic characteristics of the food product are not affected", adds the researcher.

"These substances exhibit high antioxidant capacity, and could have beneficial effects for health", says the researcher

The team also evaluated the antioxidant effect of the essential oils from other spices used in the Mediterranean diet - oregano (Origanum vulgare), thyme (Thymus vulgaris), rosemary, (Rosmarinus funcionarios cinalis) and sage (Salvia funcionarios cinalis).

The objective of the study is to enable these spices to be incorporated into food products (above all meat products) as natural antioxidants.

Changing the food industry

"Lipid oxidation is one of the main reasons for foods deteriorating, and causes a significant reduction in their nutritional value, as well as loss of taste", says Fernández-López.

These alterations lead to a reduction in the useful lifespan of the food product. To avoid such deterioration, the food industry uses synthetic antioxidants in its products. However, as these are chemical compounds,

questions have been raised about their potential toxicity and side-effects.

As a result, there is a growing interest in using plant-based products (spices, aromatic and medicinal plants) with potential antioxidant activity, in order to replace the synthetic antioxidants with "natural" substances.

More information: Manuel Viuda-Martos, Yolanda Ruiz Navajas, Elena Sánchez Zapata, Juana Fernández-López y José A. Pérez-Álvarez. "Antioxidant activity of essential oils of five spice plants widely used in a Mediterranean diet". Flavour and Fragrance Journal 25, 13-19, Feb 2010.

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