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Farmers’ and academia’s views”

Extra virgin olive oil stability study by oxitest[®] reactor

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Abstract

Extra virgin olive oil is an excellent source of natural fat, originated in the Mediterranean basin. Nowadays, olive oil is expanded and appreciated worldwide. Besides its positive content, olive oil carries substances that are not stable, and its durability depends on the storage conditions such as packaging, temperature, light, and oxygen. In this research two packaging materials (glass and Tetra Pak[®]) were used. To simulate household conditions, the headspace was created by removing half of the content. Each sample was stored under two different storage conditions (dark & cold, light & warm). Oxidation stability was identified by an OXITEST[®] reactor which is an innovative instrument to measure the oxidative stability of fat foods based on the monitoring of pressure over a period of time in analytical chambers, where the sample is submitted at high oxygen pressure and high temperature. The induction period, which is the time required to reach the starting point of oxidation, was the shortest for olive oils with headspace under light & warm conditions indicating their susceptibility to rancidity. No difference was found between packaging materials and their stability. Both dark glass bottle and Tetra Pak[®] container appear to be suitable packaging materials. To conclude, to maintain the quality of extra virgin olive oils as long as possible, it is necessary to limit the headspace in the container and reduce exposure to light conditions. It is desired to consider how much olive oil one household could consume and accordingly buy a smaller package to prevent the formation of an ample headspace and thus prevent faster oxidation.

Keywords: Evoo, *Olea europaea*, oxidation, stability