

Are Pumpkin seed oils from Slovene market genuine?

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Edible vegetable oils are very important in global nutrition. In Slovenia two superb vegetable oils with high added nutritional value are produced – 'Ekstra deviško oljčno olje Slovenske Istre z zaščiteno označbo porekla (Extra virgin olive oil from Slovene Istria with protected designation of origin)' and 'Štajersko prekmursko bučno olje (Pumpkin seed oil from Slovenia)' with protected geographical indication - PSO.

Pumpkin – the New World *Cucurbita* spp. is known in Europe since the early 16th century and soon became appreciated in Slovene northeastern regions of Štajerska and Prekmurje, and in southern Austria as a vegetable and as a source for excellent seed oil. PSO is produced from the (mainly roasted) seeds of pumpkin varieties *Cucurbita pepo* subsp. *pepo* var. *Styriaca* – 'Slovenska golica' with very thin outer hull (naked seeds) and in a lesser extent from the variety *Cucurbita moschata*. The PSO quality greatly depends on the geographical origin, seasonal variations and climatic influences. PSO has specific hedonistic, cultural, health promoting and nutritional accents in Slovene life. One of its characteristics is relatively high price. This is one of the reasons why its quality and genuinity must be monitored as adulteration can easily be undertaken.

In present work we are continuing our previous research which tried to establish a set of valid analytical approaches as a helping aid in determining a PSO's genuinity and broadening it to a set of 15 PSO bought on the Slovene market in the summer-autumn period of the year 2008. We performed a set of chemical measurements on them – the ones which could serve as a discrimination tool according to genuinity/authenticity criteria. The measurements were fatty acid methyl esters determination, trans fatty acid determination, tocopherols determination, free and esterified HPLC biophenols and triacylglycerols determination.

We implemented the gathered data with additional measurements in the UV-VIS region and with a sensorial score according to the rules set in the Slovene PSO protected geographical indication protocol thus linking the genuinity/authenticity field with the quality one.