

Change of Minor Compounds and Oxidative Stability of Virgin and Cold-pressed Naked Pumpkin (*Cucurbita pepo* L.) Oils at Elevated Temperature

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Edible nonrefined oils are a group of important food ingredients. Pumpkin seed oil rich in factors beneficial to health is in high demand of consumers' interest in disease prevention and health promotion through improved diets. Virgin pumpkin oil from roasted seed is very popular salad oil for its specific taste and bouquet and is a traditional local specialty. However, over the last years cold-pressed pumpkin seed oil is produced in Voivodina region, northern province of Serbia. The change of minor nutritive components, total tocopherol (TOC) and phenol (PC) content, and oxidative stability (induction period) of virgin and cold pressed pumpkin seed oil was investigated and the results presented in this paper. The virgin oil was obtained by pressing roasted seed on hydraulic press and the cold pressed oil from raw-dried seed (without roasting) on screw press. Both oil kinds were from a typical production lot. The oil samples, 50 ml, were kept in glass vessels in the oven at $63 \pm 0.5^\circ\text{C}$ and analyzed after 5, 10, 15 and 20 days. The results show that higher temperatures lead to loss of TOC and PC content in oil samples however, the intensity of changes depends on kind of oil. The total content of TOC and PC of fresh oil samples was 883 mg/kg and 7.45 mg/kg, respectively, in cold pressed, i.e. 1.002 mg/kg and 21.83 mg/kg in virgin oil. After 20 days, in cold pressed oil the TOC content decreased to 477 mg/kg and of PC to 4.52 mg/kg and this is a 40% loss compared to the initial values. The loss of tocopherols in virgin oil is significantly lower, around 24%, and the content is 763 mg/kg; the loss of PC is around 38% i.e. the PC content after 20 days is 13.59 mg/kg. The oxidative stability of both oils is lowering; the induction period determined by Rancimat 617 apparatus at 100°C after 20 days was 13.65 hrs in virgin oil and significantly lower in cold pressed oil – 4,30 h.