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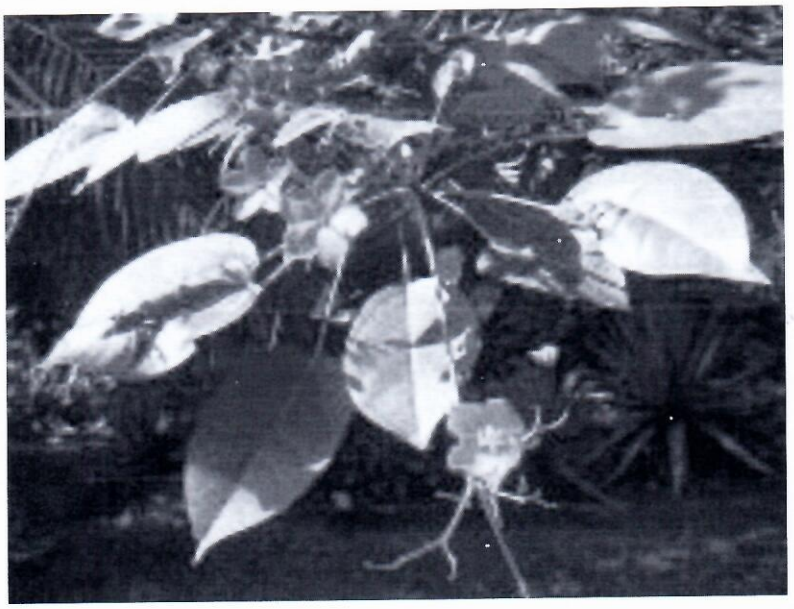

Book of Abstracts

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Investigation of the Oxidation Products of Oil Seeds of Sunflower Hybrids Grown in Serbia and Argentina

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Content of the oxidation products is very important parameter of oil quality and oxidative stability, i.e. shelf life. In order to improve shelf life of oils, the breeders create new sunflower hybrids with altered fatty acid composition as well as the content of minor components that contribute to oxidative stability of oil (tocopherols, sterols, phenolic compounds, etc.).

In order to examine the oxidative stability of the oil, sunflower seed oils of the same latest hybrids of the secondary filial (F2) generation grown on the territory of the Republic of Serbia and Argentina were analized. Samples were tempered at 63 ± 2 °C for a period of 8 days. The content of primary and secondary oxidation products was monitored through the peroxide (PV) and anisidine values(*p*-AnV, as well as the content of conjugated dienes (CD) and trienes (CT). After the 4^{th} and 8^{th} day, the samples were taken and analysed and compared with the initial samples.

Based on the content of the resulting oxidation products the best oxidative stability showed the oil seeds NS Horizont grown on the territory of Serbia. In this sample values of the tested parameters of oxidative stability in the initial sample were $PV_{initial}$ = 1.59 ± 0.06 mmol/kg, $p\text{-}AnV_{initial}$ = 0.08 ± 0.01 and after 8 days of testing: $PV_{8th\ day}$ = 30.32 ± 0.03 mmol/kg, $p\text{-}AnV_{8th\ day}$ = 2.05 ± 0.01. The same sample grown in Argentina showed significantly poorer results: $PV_{initial}$ = 2.00 ± 0.07 mmol/kg, $p\text{-}AnV_{initial}$ = 1.13 ± 0.00 and $PV_{8th\ day}$ = 73.45 ± 4.31 mmol/kg, $p\text{-}AnV_{8th\ day}$ = 3.14 ± 0.01.

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