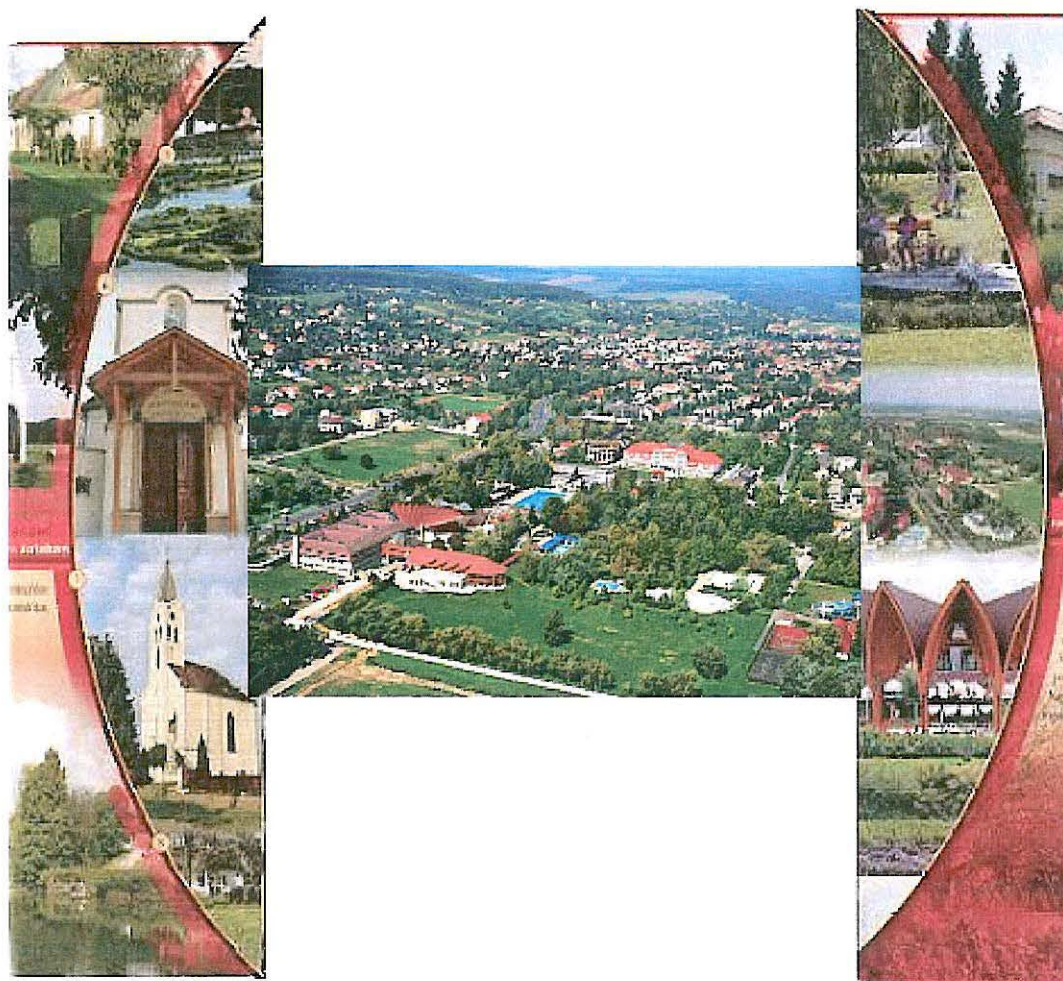


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PROGRAM AND ABSTRACTS

CHEMOMETRIC CHARACTERIZATION OF GAMMA IRRADIATED CHESTNUTS FROM TURKEY

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Chestnut (*Castanea sativa* Miller) is a valuable natural resource, with high exportation levels. Due to their water content, chestnuts are susceptible to storage problems like dehydration or development of insects and microorganisms. Irradiation has been revealing promising features to be considered as an alternative conservation technology, for Portuguese cultivars. Hence, the assessment of irradiation effects in foreign cultivars might act as an important indicator of the versatility of this technology. In this work, the effects of gamma irradiation (0.0, 0.5 and 3.0 kGy) on proximate composition, sugars, fatty acids and tocopherols composition of Turkish chestnuts stored at 4 °C for different periods (0, 15 and 30 days) was evaluated. Regarding proximate composition, the storage time (ST) had higher influence than irradiation dose (ID), especially on fat, ash, carbohydrates and energetic value. Sucrose exhibited similar behavior in response to the assayed ST and ID. The prevalence of ST influence was also verified for fatty acids (FA), tocopherols and sucrose. Lauric, palmitoleic and linolenic acids, were the only FA that undergone some differences with ID. Saturated, monounsaturated and polyunsaturated fatty acids levels were not affected neither by storage nor irradiation. α -Tocopherol was the only vitamer with significant differences among the assayed ST and ID. Overall, our results confirm that gamma irradiation is a promising conservation methodology, without inducing changes in chestnut chemical and nutritional composition.