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Book of Abstracts

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BOOK OF ABSTRACTS

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Prediction of the firmness of the selected sunflower hybrid seed based on its technological characteristics

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Abstract: Sunflower seeds (*Helianthus annus* L.) are the most represented oilseed in Serbia. During the oil production process, the seeds are partially and/or completely dehulled. Sharma et al. (2009) found that, in addition to the moisture content of the seed, the effect of dehulling is also significantly influenced by seed firmness. The dehulling effect increases with decreasing seed firmness. This paper examines the technological characteristics of sunflower seeds of selected hybrids (true density, content of hull in seeds and mass of 1000 grains expressed on dry matter), based on which a mathematical model for prediction of seed firmness was made. The tested samples are oily hybrids, grown on the territory of Serbia in 2017, namely: NS Horizont, Sumo 2 OR, NS Sumo Sjaj, NS Samuraj CLP, NS Smaragd CLP. True density, content of hull in seed, and mass of 1000 grains expressed on dry matter were made according to Karlović and Andrić (1996), while seed firmness was made using Texture Analyzer TA.HD Plus (Stable Micro Systems, Godalming, U.K.). Firmness of the samples tested ranged from 5522.67 ± 765.40 to 6889.10 ± 1220.62 g, true density from 753.92 ± 18.23 to 877.33 ± 0.93 kg m^{-3}, hull content of 47.54 ± 0.13 to 55.15 ± 0.87% and a mass of 1000 grains expressed on dry matter of 48.83 ± 0.80 to 57.10 ± 2.52 g. Model validation was also performed, and based on the statistical validation parameters, it is concluded that it is possible to predict seed firmness based on its technological characteristics.

Keywords: sunflower; dehulling; firmness; multiply linear regression

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Aknowlegment

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