EFFECTS OF COMPLEX FERTILIZER ON YIELD COMPONENTS AND YIELD OF SOME SOYBEAN GENOTYPES

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Abstract

Fertilization is one of the main economic and health-promoting factors in crop cultivation. Field trials were carried out in 2019, in the experimental field of Soybean Breeding Laboratory from Agricultural Research and Development Station in Turda (ARDS Turda), based on a subdivided parcel design with two replications, using plots of 5 m^2. The biological material used in this study was created at ARDS Turda, 13 semi-early, early and very early soybean genotypes being evaluated: 7 varieties (Perla, Onix, Felix, Carla, Caro TD, Ada TD, Raluca TD) and 6 perspective lines (T-161, T- 295, T-165, T-6126, T-6117 and T-166). Fertilization was carried out with NPK 16:16:16 complex fertilizer applying the following doses: 150 kg/ha, 200 kg/ha, 250 kg/ha and unfertilized (Control). At the end of the growing season the genotypes were characterized by: plant height (cm), number of pods/plant, number of seeds/plant, seeds weight/plant (g), TKW (g), yield (kg/ha). The reported data is the average of 10 measurements. Statistical calculations were accomplished in Excel 2013 (Microsoft, USA) highlighting differences between studied genotypes and applied doses. The average of the seed/plant had small variations, in this year's conditions; the grain size varied between 122 g and 162 g and the maximum yield was about 3 to/ha at the dose of 200 kg/ha complex fertilizer.

Keywords: soybean, complex fertilizer, yield components, nutrient supply