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GRAIN YIELD STABILITY OF MAIZE (*Zea mays* L.) HYBRIDS BELONGING TO DIFFERENT FAO MATURITY GROUPS

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Grain yield and yield stability of 15 maize hybrids belonging to FAO maturity groups 400-700 were analysed over a period of three years (2012-2014) in three different agroenvironments in Central Serbia. The hybrids were sown at the recommended plant densities ha^{-1} . Severe drought was recorded in 2012, with few rainy days and the total precipitation of about 40 mm for June, July and August i.e. during the flowering and fertilisation stages when the maize crop typically had the highest water requirement. The following year (2013) was characterised by more favourable conditions for maize growth, including moderate temperatures during the growing season, uniform distribution of rainfall and more rainy days, as opposed to adverse weather events i.e. extreme precipitation in 2014, most notably during sowing, germination, emergence and plant growth. Grain yields of all maize hybrids were higher in 2013 and 2014 than in 2012, mostly due to the higher amount and more favourable distribution of precipitation during the growing season. Grain yield across years was also dependent on FAO maturity group. The highest grain yield in 2012 was obtained by FAO 400 hybrids, whereas FAO 400-700 hybrids gave high yields in 2013 and 2014. Genotype x environment interactions were observed for all analysed traits. As regards stability parameters, late-maturity hybrids (FAO 600-700) generally exhibited unfavourable values i.e. specific responses and better adaptation to more favourable environmental conditions, higher average yields and higher values of the traits analysed, compared to early-maturity hybrids. Among medium-maturity hybrids (FAO 500), NS 5051 gave high yields at most of the experimental sites and in most years, demonstrating lower performance in terms of yield stability parameters compared to late-maturity hybrids.

Keywords: maize, hybrid, grain yield, stability.

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