

Jolánkai Péter (2013)

Comparing the effect of monoculture in case of maize (*Zea Mays L.*) and winter wheat (*Triticum Eastivum L.*) on different levels of plant nutrition and crop

Abstract

The yield ability and agronomic traits of 12 grain and 7 silage modern maize hybrids of different maturity groups (early, medium, late) with high starch accumulation, or biomass production capacity, were investigated in field trials and by laboratory analyses. Field trials were conducted at the Keszthely-location of Hungary in the growing season of 20 11. Maize hybrids were cultivated with optimal fertilization and without any irrigation, set out in a randomized complete block design. The location suffered from extreme drought in 2011, before and during the vegetation period. The actual precipitation data were as follows: January-June 27%, April-September 53% of the long-term (1951-2000) mean precipitation values, which caused high deficiencies. Plant height, grain and stalk weight, harvest index, corn-cob rate, and grain-or total aboveground-yield, were examined. Despite of the extraordinary dry weather the elite maize hybrids performed well because of their excellent genetic basis, the water storage of the deeper soil layer, and the used optimal agrotechnics (water saving tillage and optimal sowing time).