

INFLUENCE OF NITROGEN FERTILIZATION AND HYBRIDS ON CHLOROPHYLL CONTENT AND CONSEQUENT MAIZE GRAIN YIELD

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Maize (*Zea mays* L.) contributes greatly in global agri-food systems as food, feed, and raw materials for industries. In many countries, particularly in SSA, Latin America, and a few countries in Asia, maize is a well-established and significant crop for human consumption accounting for approximately 20% of food calories. However, its production is constrained by abiotic stresses such as drought and soil fertility. Among the amelioration techniques are fertilization which maintains optimum nutrition, leverage nutrient deficiency conditions, optimize maize growth and consequent yield. A tetra-plicate split-plot designed experiment was conducted in 2023 spring at the Látókép research site of the University of Debrecen to evaluate the effect of nitrogen fertilization and maize genotypes on the agro-physiological parameters and grain quality. The treatment consisted whole plot three nitrogen regimes (i.e. 0, 90, and 150 Kg/ha) and subplot three maize hybrids from Pioneer, Bayer, and GK- Szeged (P9610, DKC4590 and GKT376). The results showed a significant ($p < 0.05$) correlation coefficients were obtained between normalized difference vegetation index, leaf area index, grain yield, and protein content with chlorophyll content, revealing the importance of chlorophyll content in enhancing crop growth performance and subsequent yield.