

EFFECT OF DIFFERENT RATES OF UREA FERTILIZER ON THE GROWTH AND DEVELOPMENT OF ZEA MAYS IN SOUTH EASTERN REGION OF NIGERIA.

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ABSTRACT

This research was designed to study the effect of urea on the growth and development of maize at different rates of application in the South Eastern region of Nigeria. Completely randomized block design was employed in the experimental setup, comprising four treatments replicated three times to give a total of 12 plots. Each plot had a total of nine maize stands making a total of 108 plant population. The treatments were applied at the rates of 100kg/ha, 150kg/ha and 200kg/ha three and seven weeks after planting. The control had no treatment application. Plant growth and development was assessed using plant height, number of leaves, leaf area, fresh weight and dry weight of plants. Plant yield was assessed using fresh weight of cobs with husk, fresh weight of cobs without husk and the dry weight of cobs. The data collected from different treatment was subjected to statistical analysis using ANOVA and mean separation was done using LSD at ($p < 0.05$). The results were presented using the bar chart diagrams. The results shown by the bar chart with reference to the data collected indicated that urea applied at the rate of 100kg/ha, 150kg/ha and 200kg/ha improved the growth, development and yield of Zea mays L. but to varying degrees. The result revealed that the maximum vegetative growth was recorded from the treatment with the highest urea application (200kg/ha) followed by plots treated with 150kg/ha and 100kg/ha urea. Treatment application at the rate of 200kg/ha also produced the highest result in the yield of maize. Control had the lowest result at both growth and development stages. Hence, the study revealed that urea (46% N) had a significant increase

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