

SEED INVIGOURATION AND POTENTIATION OF MAIZE (*ZEA MAYS*) BY CHEMICAL MANIPULATION

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*An investigation was carried out on maintenance of seed potentiation of a maize species by using some selected chemicals. Maize (*Zea mays*) seeds lost viability at a rapid pace under accelerated ageing condition. Pretreatment of the seeds with sodium dikegulac (Na-DK) and indole acetic acid (IAA) for 6 hours before accelerated ageing treatment (99.1% RH and $32\pm 2^{\circ}\text{C}$) for different durations (0 to 30 days) for 30 days slowed down the ageing-induced rapid loss of germination. Plant performance was found to be much better when they were developed from seeds which underwent chemical pretreatment and this was measured in terms of field emergence capacity, root length, shoot length, fresh weight and dry weight of plants. Plant potential was also higher in the pretreatments as evidenced from the treatment-induced higher chlorophyll, protein, DNA and RNA levels as well as activities of catalase and peroxidase enzymes in spite of adverse storage situation. Results, therefore, pointed out that in spite of experiencing accelerated ageing treatment, the chemical-pretreated seeds retained higher seed vigour and produced healthier plants.*

Keywords: Accelerated ageing, Na-DK, IAA, seed invigouration, plant potentiation, maize.
