

Effect of Moisture Tension, Seed Hardening and Potassium Fertilizer into the Quantity and
Quality Characteristics of Corn Plant.

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ABSTRACT

This study was conducted in silty clay soil at Diyala Governor, Baquba (Longitude 69E12 Latitude 34N31). To observe the effect of different period of irrigation (5, 10, and 15) days, symbol as (w1, w2, and w3), and seeds hardiness processing before planting corn seeds (*Zea mays*) as not soaking, soaking in water, salt solution (Calcium Chloride) and acid solution CH₃COOH, (T0, T1, T2, and T3). Two levels of Potassium fertilizer was used (0, 80kg⁻¹). The corn variety (research 106) was planted in Randomized Complete Block Design, by used three replications. The result gave evidence that the biological yield was increased significantly by five days irrigation. Whereas in irrigation of (15) days increased significantly the quantity of proline and percentage of protein in plant leaves. Seeds hardening by water gave significant effect for the biological crop and increased of proline quantity and the chlorophyll in leaves. In contrast the seeds soaking in salt solution of Calcium Chloride increased of protein percentage. Seeds soaking in acidic solution before planting corn plant, lead to increase of leaves area. Adding of Potassium fertilizer act in reducing of negative effect of moisture tension and in quantity an quality characteristics of yield. The aggregation of proline , particularly with Potassium fertilizer and seeds soaking in water, before planting of corn plant, may be responsible in regulation of water movement inside plant and circumstances of moisture tention stress.

