

EFFECT OF MOISTURE REGIMES AND INTEGRATED NITROGEN MANAGEMENT ON GROWTH CHARACTERS OF POTATO (*SOLANUM TUBEROSUM* L.)

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Abstract: A field experiment was conducted to study the effect of moisture regimes and integrated nitrogen management on the performance of potato crop (*Solanum tuberosum* L.) during Rabi season of 2016-17 at Agronomy Research Farm, Narendra Deva University of Agriculture & Technology (Narendra Nagar), Kumarganj, Faizabad (UP). The treatments included to irrigation methods viz. M₁ (Regular furrow irrigation method) and M₂ (alternate furrow irrigation method), moisture regime viz. 0.8 IW/CPE, 1.0 IW/CPE and 1.2 IW/CPE with 6 cm irrigation water depth and nitrogen management viz. N₁ (100% dose of N through urea), N₂ (75% dose of N through urea + 25% dose of N through compost) and N₃ (50% dose of N through urea + 50% dose of N through compost). The experiment was laid out in Split Plot Design with four replications. The soil of experimental field was silt loam in texture, poor in organic carbon and nitrogen, medium in available phosphorus and rich in potassium with pH 8.0. The planting was done by hand on ridges and nutrients and irrigations were applied as per treatment. Initial plant stand was non-significant under various irrigation methods, moisture regimes and nitrogen management. The growth characters viz. plant height, number of haulms at 30 DAP was also insignificant but at 60 and 90 DAP, there were significantly superior under M₁ (regular furrow irrigation method) with I₂ (1.0 IW/CPE) and N₂ (75% dose of N through urea + 25% dose of N through compost). Number of all grade of tubers was found to be significant due to effect of moisture regimes.

Keywords: Furrow irrigation, Split plot design, Moisture regimes, Irrigation water

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