

YIELD IRRIGATION PRODUCTION EFFICIENCY AND ECONOMIC RETURN OF GREEN PEA UNDER VARIABLE IRRIGATION AND FERTIGATION

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Abstract: Field study was carried out at the irrigation Research Farm of Sam Higginbottom Institute of Agriculture and Sciences (Deemed to be University) Allahabad, U. P., India, During winter crop growing season of December 2011 to March 2012, on clay loam soil in order to evaluate the yield of green pea under different irrigation scheduling with fertigation under semi arid climate. The crop was subjected to variable irrigated level (IW/CPE ratio of 50, 75, 100, 125, 150) and fertigation level (100, 200, 300). The crop was irrigated when daily mean of USWB class. A pan evaporation reached to predetermined value of 16.3 mm. irrigated by drip irrigation method with 4l/h non compensated on line dripper's Irrigation at 125% of pan evaporation replenishment and fertigation level 300kg/ha resulted in higher green pea yield, whereas irrigation production efficiency was higher with irrigation at 50% of pan evaporation replenishment with fertigation level 300kg/ha. The irrigation at 125% with fertigation level of 300kg/ha, of Pan –evaporation replenishment resulted in higher gross return, net return and benefit cost ratio. Seasonal water applied irrigation schedules and bulb yield, gross return, net return and benefit cost ratio exhibited strong quadratic relationship which can use for optimizing green pea production in this region.

Keywords: Drip irrigation, Irrigation scheduling, Fertigation, Economic analysis marketable yield, Pea

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