Economic of Chickpea Cultivars as Influenced by Sowing Time and Seed Rate

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Abstract : Field experiment was conducted at Pulse Research Area of CCS Haryana Agricultural University, Hisar during rabi 2012-13 to study the economics of chickpea cultivars as influenced by sowing time and seed rate on sandy loam soils under irrigated conditions. The factorial experiment consisting of 24 treatment combinations with two sowing time (1st fortnight of November and 1st fortnight of December.) and four cultivars (H09-23, H08-18, C-235 and HC-1) kept in main plots while three seed rates viz. 40 kg ha-1, 50 kg ha-1 and 60 kg ha-1 was laid out in split plot design with three replications. The crop was sown with common row spacing of 30 cm as per the dates of sowing. The fertilizer was applied in the form of di- ammonium phosphate. The soil of the experimental site was deep sandy loam having pH of 7.9, EC of 0.13 dS/m and low in organic carbon (0.34%), low in available N status (193.36 kg ha-1), medium in available P2O5 (32.18 kg ha-1) and high in available K2O (249.67 kg ha-1). The crop was irrigated as and when required so as to maintain adequate soil moisture in the root zone The crop was sprayed with monocrotophos (1.25 l/ha) at initiation of flowering and at pod filling stage to protect the crop from pod borer attack. The yield was measured at the time of harvest. The cost of field preparation, sowing of seeds, thinning, weeding, plant protection, harvesting and cleaning contributed to fixed cost. The experiment was laid out in a split plot design with two sowing time (1st fortnight of November and 1st fortnight of December.) and four cultivars (H09-23, H08-18, C-235 and HC-1) kept in main plots while three seed rates viz. 40 kg ha-1, 50 kg ha-1 and 60 kg ha-1 were kept in subplots and replicated thrice. Results revealed that 1st fortnight of November sowing recorded significantly higher gross (Rs.1, 01,254 ha-1), net returns (Rs. 68,504 ha-1) and BC (3.09) ratio as compared to delayed crop of chickpea. Highest gross (Rs.91826 ha-1), net returns (Rs. 59076ha-1) and BC ratio (2.81) was recorded with H08-18. Higher value of cost of cultivation of chickpea was observed in higher seed rate than the lower ones. However no significant variation in net and gross returns was observed due to seed rates. Highest BC (2.72) ratio was recorded with 50 kg ha-1 which differs significantly from 60 kg ha-1 but was at par with 40 kg ha-1. This is because of higher grain yield obtained with 50 kg ha-1 seed rate. Net profit for farmers growing chickpea with seed rate of 50 kg ha-1 was higher than the farmers growing chickpea with seed rate of 40 and 60 kg ha.

Keywords : chickpea, cultivars, seed rate, sowing time
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