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RESEARCH PAPER

Response of crop geometry, fertilizer application and genotypes on growth, yield and yield attributes in coriander (*Coriandrum sativum* L.)

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Abstract : A field experiment was conducted during *Rabi* 2020-21 and 2021-22 at KVK, Guna.Treatments comprised of three crop geometry *viz.*, 20x10 cm (S_1), 22.5x10 cm (S_2) and 25x10cm (S_3), two fertilizer levels *viz.,* F_1 -60:40:40:20 N:P:K:S ha^{-1}, F_2- 70:50:50:30 N:P:K:S ha^{-1} and three genotypes *viz.,* Ajmer Coriander^{-1} (V_1), Pant Haritima (V_2) and Kumbhraj as a check (V_3). The experiment was laid out in Randomized Block Design (RBD) with factorial concept. Result revealed that application of N:P:K:S 70:50:50:30 (F_2) Kg^{-1} ha with a row spacing of 25x10 cm (S_3) row spacing significantly improved plant height, number of branches/plant, while minimum days to 50% flowering was recorded in 20x10cm (S_1), whereas the highest number of umbels/plant, test weight (g), Umbellates Plant^{-1}, seed yield (kg ha^{-1}), straw yield (kg ha^{-1}), biological yield (kg ha^{-1}), harvest index (%) was recorded in 25x10 cm (S_3) Highest No. of nodes (11.20, 11.08 and 11.28) at harvest in S_3, F_2 and V_2 and primary branches were recorded (8.86, 8.65 and 8.58) in S_3, F_2 and V_2, respectively for growth parameters whereas, maximum No. of umbels and No. of umbellates (39.26, 38.20, 42.39 and 139.91, 134.66, 140.82) was recorded at harvest in S_3, F_2 and V_2, respectively. Maximum seed yield (13.22, 12.62, 12.80 and 25.77, 24.57, 24.76) was recorded in S_3, F_2 and V_2, respectively (kg ha^{-1}). Pant Haritima (V_2) recorded an additional net returns of Rs. 89273 and Rs. 82510 over Kumbhraj (V_3) and Ajmer Coriander-1 (V_1). Highest B:C ratio was obtained with Pant Haritima (3.36) as compared to Kumbhraj (3.34) and Ajmer Coriander-1 (2.93), respectively.

Key Words : Coriander, Genotypes, Umbel, B:C ratio, Crop geometry, Seed yield

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