



RESEARCH PAPER

Growth, yield and quality of *Rabi* sweet corn as influenced by different spacing and fertilizer levels

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Abstract : A field experiment was conducted during *Rabi* 2011 Navsari to assess the response of *Rabi* sweet corn to spacing and fertilizer levels under south Gujarat condition. The experiment comprised of sixteen treatment combinations consisting four levels of plant spacing (60 x 15, 45 x 20, 30 x 30 and 60 x 30 cm) and four fertility levels (60-30, 90-45, 120-60 and 150-75 kg N-P₂O₅/ha). Plant spacing of 60 x 30 cm, 45 x 20 cm and 60 x 15 cm attained significantly higher plant height compared to 30 x 30 cm. While stem diameter and number of leaves per plant were not influenced by different spacing levels. The sweet corn plants exhibited significantly maximum values of yield attributes *viz.*, cob length, cob girth, under spacing of 45 x 20 cm. Number of cobs per plant and cob yield per plant were higher under spacing of 60 x 30 cm. The highest green cob yield was recorded at spacing of 45 x 20 cm closely followed by 30 x 30 cm. Quality parameters *viz.*, crude protein content in cob and fodder reducing and non-reducing sugar content of grains were higher at spacing 45 x 20 cm. The growth of sweet corn in terms of plant height, number of leaves per plant, stem diameter were maximum with application of 150-75 kg N-P₂O₅/ha. The sweet corn plants exhibited maximum values of yield attributes *viz.*, number of cobs per plant under 150-75 kg N-P₂O₅/ha and found at par with those recorded under 120-60 kg N-P₂O₅/ha. Whereas cob length, cob were under 120-60 kg N-P₂O₅/ha and found at par with those recorded under 150-75 kg N-P₂O₅/ha. Application of 150-75 and 120-60 kg N-P₂O₅/ha significantly increased green cob yield over 90-45 and 60-30 kg N-P₂O₅/ha. Quality parameters *viz.*, protein content of cob and fodder were significantly enhanced. Thus, from the present study, it seems quite logical to conclude that higher production and net returns from *Rabi* sweet corn (var. Madhuri) can be secured by sowing the crop at 45 cm x 20 cm spacing and fertilizing with 120-60 kg N-P₂O₅/ha on clayey soil under south Gujarat condition.

Key Words : Sweet corn, Spacing, Fertilizer

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