



## RESEARCH PAPER

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

M. V. DANGARIYA, M. S. DUDHAT\*, V. G. BAVALGAVE AND J. D. THANKI

Department of Agronomy, N. M. College of Agriculture, Navsari Agricultural University, NAVSARI (GUJARAT) INDIA (Email : [msdudhat@nau.in](mailto:msdudhat@nau.in); [drjdthanki@nau.in](mailto:drjdthanki@nau.in))

**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-P<sub>2</sub>O<sub>5</sub>/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-P<sub>2</sub>O<sub>5</sub>/ha. The sweet corn plants exhibited maximum values of yield attributes viz., number of cobs per plant under 150-75 kg N-P<sub>2</sub>O<sub>5</sub>/ha and found at par with those recorded under 120-60 kg N-P<sub>2</sub>O<sub>5</sub>/ha. Whereas cob length, cob were under 120-60 kg N-P<sub>2</sub>O<sub>5</sub>/ha and found at par with those recorded under 150-75 kg N-P<sub>2</sub>O<sub>5</sub>/ha. Application of 150-75 and 120-60 kg N-P<sub>2</sub>O<sub>5</sub>/ha significantly increased green cob yield over 90-45 and 60-30 kg N-P<sub>2</sub>O<sub>5</sub>/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-P<sub>2</sub>O<sub>5</sub>/ha on clayey soil under south Gujarat condition.

**Key Words :** Sweet corn, Spacing, Fertilizer

**View Point Article :** Dangariya, M.V., Dudhat, M.S., Bavalgave, V.G. and Thanki, J.D. (2017). Growth, yield and quality of *Rabi* sweet corn as influenced by different spacing and fertilizer levels. *Internat. J. agric. Sci.*, **13** (1) : 38-42, DOI:10.15740/HAS/IJAS/13.1/38-42.

**Article History :** Received : 29.06.2016; Revised : 01.11.2016; Accepted : 07.12.2016

---

\* Author for correspondence: