



Response of summer sesamum (*Sesamum indicum* L.) to different spacings and levels of nitrogen under north Gujarat condition

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Abstract : An experiment was conducted at Agronomy Instructional Farm, Chimanbhai Patel College of Agriculture, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar during 2011 on response of summer sesamum (*Sesamum indicum* L.) to different spacings and levels of nitrogen under north Gujarat condition. Spacing of 60 cm showed its superiority by producing highest seed (569 kg ha⁻¹) and stalk yields (1977 kg ha⁻¹). The same treatment exhibited significant improvement by recording maximum values for the growth and yield parameters viz., number of branches plant⁻¹, dry matter production plant⁻¹, number of capsules plant⁻¹ and seed yield plant⁻¹ but plant population and plant height was lower at 60 cm. With regard to N content in seeds and stalk as well as N, P and K uptake by seeds, stalk and total, 60 cm spacing, surpassed rest of the treatments bearing maximum values. Application of nitrogen @ 75 kg ha⁻¹ recorded significantly higher seed (630 kg ha⁻¹) and stalk yields (2119 kg ha⁻¹) over 0, 25 and 50 kg N ha⁻¹ and significantly improved growth and yield attributing characters viz., plant height, number of branches plant⁻¹, dry matter production plant⁻¹, number of capsules plant⁻¹, seed yield plant⁻¹ and 1000 seed weight. Application of nitrogen @ 75 kg ha⁻¹ significantly improved N, P and K content (seeds and stalk) and uptake (seeds, stalk and total). Treatment combination 60 cm spacing and 75 kg N ha⁻¹ bearing maximum values of all these parameters ranked at top. Maximum net realization of Rs. 35069 ha⁻¹ and BCR 2.47 was noted under 60 cm spacing. Similarly the respective figures were maximum (Rs. 40795 ha⁻¹ and 2.68) when crop was fertilized with 75 kg N ha⁻¹. Experimentation showed that for securing higher yield as well as net realization, summer sesamum should be sown at 60 cm spacing and fertilized with 75 kg N ha⁻¹ along with 25 kg P₂O₅ ha⁻¹ and 20 kg S ha⁻¹.

Key Words : Levels, Sesamum, Spacings, Nitrogen

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