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Growth and yield of sunflower genotypes (*Helianthus annuus* L) as influenced by varying levels of NPK fertilization

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An investigation on nutrient requirement of sunflower genotypes was carried out at the Students' Farm, College of Agriculture, Rajendranagar, Hyderabad to study the effect of NPK fertilization on two sunflower genotypes *viz.*, Morden and KBSH-1 with six levels of nutrients applied through the fertilizers-0:0:0; 30:20:10; 60:40:20; 90:60:30; 120:80:40 and 150:100:50 NPK kg ha⁻¹. The layout of the trial was a randomized block design with four replications and the statistical evaluation was a 2 x 6 factorial analysis of variance.

The results indicated that KBSH-1 attained significantly tall height (165.3cm) produced more number of leaves (27.11) and phytomass per plant (127.2g) compared to Morden during every stage of crop growth. The two genotypes produced flower heads of similar diameter. But, KBSH-1 had significantly more number of 860 seeds compared to 697 seeds per capitulum in Morden. The seed of KBSH-1 also had a higher test weight of 45.53 g and yielded 31.90 g seed per plant in contrast to the lowest weight of 41.30 g and yield of 26.71 g per plant in Morden. The genotype KBSH-1 produced 1199 kg seed yield ha⁻¹. This was on par with the seed yield of 1144 kg ha⁻¹ from Morden.

The crop responded to exhibit a significant improvement in vegetative and reproductive growth by the application of 60:40:20 NPK kg ha⁻¹. The plant height increased significantly from 45 days after sowing until harvest and maximum number of leaves up to 60 days after sowing. Phytomass also increased significantly from the bud formation stage until harvest of the crop through this treatment. Capitulum diameter improved with increase in the level of fertilizers upto 150:100:50 kg NPK/ha. The unfertilized crop had 522 seeds per capitulum. The application of 60:40:20 NPK kg ha⁻¹ significantly increased the number of seeds to 821 per capitulum. The mean seed yield was 717 kg/ha by growing the crop without the addition of fertilizers. The application of 60:40:20 NPK kg ha⁻¹ significantly increased it to 1209 kg ha⁻¹.

Biography

Kadasiddappa Malamasuri has completed his M.Sc. (Agri) from ANGRAU and presently pursuing Ph.D. in Dept. of Agronomy, College of Agriculture, Rajendranagar, ANGRAU, Hyderabad, Andhra Pradesh.

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Efficacy of pre- and post- emergence herbicide for integrated weed management in summer green gram (*Vigna radiata* L. Wilczek)

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Field experiment was carried out on the medium black soil of Junagadh Agricultural University, Junagadh (Gujarat) during summer seasons of 2011. The relative efficacy of pendimethalin, oxyfluorfen, fenoxaprop-P-ethyl, quizalofop-ethyl applied alone or in combination with hand weeding and interculturing 30 days after sowing (DAS) to control weeds in summer green gram. The results that two hand weeding with two interculturing 20 DAS and 40 DAS proved its superiority over rest of the weed management in summer green gram. Among herbicidal treatment, application of quizalofop-ethyl at 20 DAS and fenoxaprop-p-ethyl at 20 DAS was found to be relatively more effective in controlling weeds than their sole application.

Biography

S K Chhodavadia completed his BSc (Agri) and M.Sc. (Agri) & continuing with Ph.D. (Agri) at the age of 24 years from Junagadh Agricultural University (Gujarat). He has participated in state and national level seminars.

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