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## Effect of pre and post emergent herbicide on nutrient uptake and yield in soybean (*Glycine max* L. Merrill)

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**S** oybean (*Glycine max* (L.) Merrill) is the premier pulse and oil seed crop in India. Weed infestation in soybean is one of the major hurdles which limit its productivity to a greater extent. A field experiment was conducted during *Kharif* 2010 at College of Agriculture, Navile, Shivamogga, UAS, GKVK, Bengaluru. The experiment consisted of 11 treatments laid out in RCBD with three replication consisting one pre and three post emergent herbicides compared with two hand weeding at 20 and 40 days after sowing and weedy check. The dominant weed flora associated with experimental field were *Celosia argentia, Acanthospermum hispidum, Commelina benghalensis, Borreria articularis, Parthenim hystrophorus, Cleome viscosa, Dactyloctenium aegyptium, Cynodon dactylon, Eleusine indica, Digitaria marginata and Cyperus rotundus. Significantly higher grain and straw yield was noticed (23.12 and 35.83 q ha<sup>-1</sup>) in clethodim 24% EC at 60 g a. i. ha<sup>-1</sup> along with NIS + AMS this is on a par with the application of clethodim 24% EC at 48 g a. i. ha<sup>-1</sup> along with NIS + AMS (21.72 and 33.99 q ha<sup>-1</sup>). This yield was mainly attributed to better expression of growth and yield components as a result of effective weed control of weeds during early stages of crop growth and it helped the crop to utilize available resources i.e., nutrients, moisture, space and light to the full extent. The higher nutrient uptake by crop was recorded with the application of clethodim 24% EC at 48 g a. i. ha<sup>-1</sup> along with NIS + AMS (129.47, 23.53 and 105.90 kg ha<sup>-1</sup> N, P and K, respectively) and application of clethodim 24% EC at 48 g a. i. ha<sup>-1</sup> along with NIS + AMS (115.48, 22.87 and 100.40 kg ha<sup>-1</sup> N, P and K, respectively) compare to other treatments. Whereas, higher nutrient uptake by weeds was recorded in unweeded check (32.03, 8.80 and 36.20 kg ha<sup>-1</sup> N, P and K, respectively).* 

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## Heterosis studies in ridge gourd (Luffa acutangula Roxb.L.)

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**R** idge gourd (*Luffa acutangula* Roxb L.) is predominantly monoecious in sex expression; cross pollinated and provides an ample scope for utilization of hybrid vigour in view of availability of wide range of genetic variability. It can be profitably utilized for the production of  $F_1$  hybrid seeds at cheaper rates, as the monoecious nature of crop eliminates emasculation and the higher number of hybrid seeds per cross makes it more economical. Nine parental lines and their eighteen  $F_1$  hybrids of ridge gourd obtained from line × tester design were studied to investigate the extent of heterosis, heterobeltiosis and standard heterosis over two commercial checks for yield and its contributing traits. The standard heterosis was mostly positive for fruit characters and fruit yield while, it was negative for days to first staminate flower appearance, days to first pistillate flower appearance, days to 50% flowering and number of staminate flowers per vine in most of the hybrid combinations. The hybrid RGP-26 × Pusa Nasdar registered highest standard heterosis of 22.88% and 44.89% over the checks Green Beauty and Viva Beauty, respectively. The four  $F_1$  hybrids viz., RGP-26 × Pusa Nasdar, LA-31 × Pusa Nasdar, RG-152 × Pusa Nasdar and LA-30 × Jaipur Long exhibited appreciable standard heterosis for yield which may be exploited for commercial cultivation.

## **Biography**

P Karthik Reddy is a Ph.D. Scholar at Choudhary Charan Singh Haryana Agricultural University, Hisar, Haryana. He is the university topper and secured nine gold medals during his under graduation in horticulture from UAS, Dharwad. He completed his Masters in Horticulture (Vegetable Science) from DR.Y.S.R.H.U, Hyderabad. His area of interest is Heterosis Breeding and Combining Ability in Ridge Gourd. At present he is working on "Studies on morphological and biochemical traits for Potato Apical Leaf Curl Virus resistance in potato (*Solanum tuberosum*)". He has one international and five national publications in reputed journals.

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