

Effect of sulphur on growth and yield of groundnut (*Arachis hypogaea*)

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An experiment was conducted at Akola during the rainy season 1991 to study the effect of sulphur on growth and yield of groundnut (*Arachis hypogaea* L.).

The experiment was laid out in randomized block design with 4 replications. The treatments comprised 5 levels of S, viz. 0, 15, 30, 45 and 60 kg/ha. The sowing of groundnut 'JL 24' was done on 10 July in rows 30 cm apart. The S was applied in rows before sowing through elemental S as per treatments.

The soil of the experimental plot was clayey in nature, containing 0.42% organic carbon, 33 kg/ha available P_2O_5 , 307 kg/ha available K_2O and sulphur 11 ppm. The crop was uniformly fertilized with N and P @ 25 and 50 kg/ha respectively through urea and diammonium phosphate. Soil pH was 7.8. Total rainfall received during the crop season was 429.4 mm in 26

rainy days.

The data on dry-pod yield revealed that S application positively influenced the yield (Table 1). Maximum pod yield (12.44 q/ha) was obtained with 30 kg S/ha. It was significantly superior to the control and 15 kg S/ha and was on a par with rest of the treatments. Sulphur application @ 45 and 60 kg/ha yielded significantly more than the control, but was on a par with 15 and 30 kg S/ha. Similar results were reported by Badiger *et al.* (1982). Tandon (1986), Snehi Dwivedi (1986) and Pasricha *et al.* (1987) reported similar trend for haulm yield. Further, it was noticed that the values of yield-contributing characters and oil yield were more with S application, but the differences due to treatments were not significant. Thus, application of 30 kg S/ha to rainy-season groundnut was more beneficial.

Table 1. Yield and yield attributes of groundnut as influenced by sulphur application

S (kg/ha)	Dry-pod yield (q/ha)	Haulm yield (q/ha)	Pods/ plant	Pod weight/ plant (g)	100- seed weight (g)	Oil content (%)
0	6.94	36.45	7.8	4.75	30.12	45.3
15	8.96	37.61	8.4	5.25	30.00	45.8
30	12.44	54.39	9.0	6.00	34.12	47.9
45	10.70	43.98	9.6	5.57	35.25	38.9
60	11.22	50.92	8.7	5.00	29.62	45.1
CD (P = 0.05)	3.26	13.54				

REFERENCES

- Badiger, M. K., Reddy, M. P., Michal, R. and Shivraj, B. 1982. Influence of fertilizer K, S and Ca on the yield and quality attributes of groundnut. *Soil Science* 30 (2) : 166-169.
- Pasricha, N. S., Aulakh, M. S., Bahl, G. S. and Baddesha, H. S. 1987. *Nutritional requirements of oilseeds and pulses, in Punjab (1974-1986)*, Department of Soil Science, Punjab Agricultural University, Ludhiana.
- Shehi Dwivedi, R. 1986. *Mineral nutrition of groundnut*. Book-Metropolitan, New Delhi, pp. 40.
- Tandon, H.S. 1986. *Sulphur Research and Agriculture Production in Indian*. Fertiliser Development and Consultation Organisation, New Delhi.

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Response of promising groundnut (*Arachis hypogaea*) genotypes to fertilizer levels during summer

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Dhar (1981) pointed out that the improved varieties of a crop may require more liberal manurial treatment than that grown ordinarily. The information on fertilizer requirement of the newly evolved genotypes of summer groundnut (*Arachis hypogaea* L.) is inadequate, the present study was undertaken to find out fertilizer requirement of the some promising genotypes.

The field experiment was conducted during summer 1990 in a factorial randomized block design with 3 replications. The soil was medium black containing 250 kg/ha available N, 16 kg/ha P_2O_5 and 490 kg/ha K_2O , with pH 7.9. There were 12 treatment combinations, consisting of 4 genotypes and 3 fertilizer levels as in Table 1. The crop was sown on 27 January 1990 at a spacing of 30 cm × 10 cm by dibbling method. The fertilizer as per treatments was

applied at the time of sowing through urea, single superphosphate and muriate of potash. A recommended agronomic package of practices and plant-protection measures were adopted throughout the growth period of crop. The crop was harvested at proper maturity. Data on pod and haulm yields and yield-attributing characters were recorded.

Among the genotypes tested, 'Sel. 7-9-5' gave significantly highest pod yield than 'ICGV 86309' and 'J 19', however, it was on a par with 'ICGV 87189'. Yield difference between 'ICGV 86309' and 'J 19' were non-significant. The higher yield given by genotype 'Sel. 7-9-5' was owing to higher values of yield-attributing characters, viz. number of pods/plant, weight of pods/plant and 100-pod weight. For haulm yield, genotypes 'Sel. 7-9-5', 'ICGV 86309' and 'J 19' being at par recorded significantly more yield than 'ICGV 87189'. Difference