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Response of Groundnut to Foliar Application of Urea

A. M. Dodia and L. D. Vavadia

Main Oilseeds Research Station, Gujarat Agril. University, Junagadh campus, Junagadh-362001

Of late, foliar application of fertilizers has attracted considerable attension of the farmers. Urea, being an unique source of nitrogen, is superior to other *N* sources for foliar spray due to its non polar nature, which facilitates rapid absorption through leaf surface. Hence this compound is uniquely suited for this use (Wittwer *et al.*, 1963). Sadaphal and Das (1966) found foliar application of urea as a supplement to soil application of nitrogen. Patra (1974) observed spray application of 4% urea solution to increase pod yield and number of mature pods per plant of groundnut. Syed *et al.* (1970) reported the application of urea, half as soil application and half as foliar spray in two or three instalments to effect an increase in pod yield by about 8% than that achieved when all of the urea was applied through soil. Sahu and Lenkha (1967) observed that the supply of urea half as basal application and half as foliar application induced better growth and yield than full application of urea either through soil or foliage in the case of paddy. In view of above considerations, this investigation was carried out to find out the efficacy of urea as foliar spray as compared to soil application on increasing pod yield of groundnut in a randomized replicated during *kharif* seasons of 1975-76, 1976-77 and 1977-78 on a bunch strain GAUG-1 under rainfed conditions at the Main Oilseeds Research Station, Junagadh, Gujarat on a medium black soil. The treatments of nitrogen application as urea included in the study are showin in Table 1.

An uniform dose of 25 kg P_2O_5 from single super phosphate was applied to all the experimental plots. The details of treatments and data on pod yield are presented in Table 1.

The differences in pod yield during the two years were non-significant and pooled data also showed the same trend. However, the application of 20 kg N/ha from urea, half as soil application and half as foliar spray, 30 and 45 days after sowing (T_{10}) produced the highest yield and recorded 5·2 and 6·6 per cent higher pod yield over the treatments of 20 kg N/ha (T_4) and 12·5 kg N/ha (T_1, control) from urea wholly given as soil application, respectively. The results are in close conformity with the findings of Syed *et al.* (1970) on groundnut.

The application of 20 kg N/ha from urea, 30 and 45 days after sowing gave five per cent increase in shelling outturn of pods over that of control (T_1).

TABLE 1

The pod yield of groundnut as affected by various treatments.

Treatments (Nitrogen kg/ha from urea)		*Pod yield kg/ha*			*Mean*	*Mean*
		1975-76	1976-77	1977-78		*shelling %*
T_1 12·5 as basal soil application (Control)		2072	591	974	1212	70·0
T_2 5·0 as soil application		1811	715	792	1106	70·5
T_3 10·0 ,, ,,		1632	602	854	1029	70·0
T_4 20·0 ,, ,,		1985	678	1024	1229	71·5
T_5 5·0 as foliar application, 45 days after sowing		1904	573	801	1094	69·5
T_6 10·0 ,, ,, 30 & 45 days after sowing		1985	623	870	1159	72·5
T_7 20·0 ,, ,, 30, 45 & 60 ,, ,,		2049	629	965	1214	70·0
T_8 5·0 ½ as soil application and ½ as foliar application, 45 days after sowing		2026	540	908	1158	71·5
T_9 10·0 ½ ,, ,, ,, ,, ,,		1887	555	858	1100	72·5
T_{10} 20·0 ½ ,, ,, ,, ,, ,,	30 &45	2245	626	1008	1293	73·5
S.Em		146	50	32	194	
C.D. at 5%		N.S.	N.S.	91	N.S.	
C.V. %		14·9	16·5	12·0	57·8	

The foliar spray of urea did not influence the oil content of kernels.

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