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A NOTE ON THE COMPARATIVE EFFICIENCY OF UREA ALONE AND MIXED WITH LOCALLY AVAILABLE MATERIALS ON THE YIELD OF RICE VARIETY TRIVENI

Experiments conducted in several places in India have revealed the beneficial effect of neem cake in increasing the efficiency of urea when mixed with it. Shinde *et al* (1975) reported the potentialities of rice straw powder as a slow release nitrogen source for rice. In the study at Rice Research Station, Pattambi, rubber cake effected 9.3 per cent increase in yield over the untreated control (Anon, 1975).

In view of the above reports it was thought worth while to assess the suitability of various other locally available materials in addition to neem cake, rubber cake, and rice straw powder as slow release nitrogen sources and to assess their comparative efficiency with a view to recommending a suitable cheap material for practical adoption.

The study was undertaken in the sandy clay loam soil of College of Agriculture, Vellayani, Kerala during the second crop season of 1976 - 77. The soil contained 0.086 per cent total nitrogen, 0. 0028 per cent available P_2O_5 and 0.0027 per cent available K_2O with a pH of 5.6. The rice variety *Triveni* was used for the experiment. The experiment was laid out in randomised block design with 10 treatments (vide Table 1) and 3 replications. Nitrogen was applied at the rate of 70 kg/ha. in three equal split doses viz., 1/3 as basal 1/3, 15 days after transplanting and 1/3, 30 days after transplanting in the form of urea alone and mixing with various locally available materials as per the treatments. The locally available materials have been powdered before mixing with urea. The nitrogen content of locally available materials has been taken into consideration in fixing the quantity of urea for each plot. Phosphorus and potash were applied uniformly at the rate of 35 kg each/ha as basal dressing. Plant protection measurers were taken whenever necessary.

The data are presented in Table 1. It is seen from the table that the effect of none of the treatments was significant in increasing the yieid of grain or straw. While urea mixed with rice husk treatment (T_1) produced the maximum grain yield of 2400 kg/ha, the maximum straw yield of 4440 kg/ha was produced by the treatment urea mixed with neem cake (T_2). Thus it is seen that the various locally available materials could not make any superiority over urea alone in increasing the yield of rice.

One of the probable reasons for the lack of response for various locally available materials may be the split application of urea which means continuous

Table 1

Effect of urea alone and mixed with locally available materials on yield of grain and straw

Treatments	Yield of grain in kg/ha.	Yield of straw in k/ha.
T_1 (Urea alone)	1865	3995
T_2 (Urea + Neem cake)	1915	4440
T_3 (Urea + Rubber cake)	1535	3385
T_4 (Urea + Coir dust)	1750	3035
T_5 (Urea + African paya!)	2035	3595
T_6 (Urea + Saw dust)	1975	3360
T_7 (Urea + Rice husk)	2400	3870
T_8 (Urea + Straw powder)	1815	3700
T_9 (Urea in paper packets)	2125	3440
T_{10} (Aldehyde urea)	1935	3475
'F' Test	N. S	N. S
S. E. m. (0.05)	± 0.500	± 0.771

supply of nitrogen during-the critical stages of plant growth. The studies conducted at Pattambi also revealed the lack of response for various oil cakes in increasing the efficiency of urea (Anon 1975).

സംഗ്രഹം -

യൂറിയയുടെ കാര്യക്ഷമത വർദ്ധിപ്പിക്കുന്നതിനു് യോജിച്ച നാടൻവസ്തുക്കൾ ഏതെന്നറിയുന്നതിനുവേണ്ടി 1976 _ 77 roensoo വിളക്കാലത്തു് വെള്ളായണികാർഷിക കോളേജിൽ നടത്തിയ ഒരു പരിക്ഷണത്തിൽ, റബ്ബർപിണ്ണാക്കു്, ആഫ്രിക്കൻപായൽ, ചകരിച്ചോർ, മരപ്പൊടി, ഉമി, വൈയ്ക്കോൽ തുടങ്ങിയ നാടൻവസ്തുക്കൾ യൂറിയയുമായി കലർത്തി ചേക്കുന്നതു് കൊണ്ടു് പ്രയോജനമൊന്നും ഇല്ലെന്നു് വ്യക്തമായി.

REFERENCES

Anonymous, 1975. Rice Research Station, Pattambi, Annual Report for 1974—75 15—16.

Anonymous, 1975. Kerala Agricultural University Annual Report 1974—75, 33—34.

Shinde, J. E., Vamadevan, V. K., Chakravarti S. P., and Asthana D. C. 1975. Use of straw for a potential slow release nitrogen source for rice. *Fertilizer News* 20, 8.

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