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EFFICIENCY OF COMPLEX FERTILISER ON RICE

The need for balanced and judicious use of nitrogen, phosphorus and potassium in agricultural production and building up soil fertility has been now universally accepted. The effect of various methods and timings of application of complex fertilizers have not been studied so far. The present investigation was undertaken to study the efficiency of foliar vs soil application of complex fertiliser (17: 17: 17) on the HYV of paddy IR-8. The study was carried out at the Rice Research Station, Mannuthy during the second crop season of 1976.

The treatments consisted of 1. Complex fertiliser full quantity as basal dressing (T_1), (2) Complex fertiliser full quantity 10 days after planting (T_2), (3) complex fertiliser 50% basal and 50% at tillering stage (soil application) (T_3), (4) Complex fertiliser 50% as basal and 50% at tillering stage (foliar application) (T_4), (5) complex fertiliser 50% as basal, 25% at tillering (soil) and 25% at panicle initiation stage (soil) (T_5), (6) Complex fertiliser 50% as basal, 25% at tillering (foliar) and 25% at panicle initiation stage (foliar) (T_6), (7) Straight fertilisers 50% nitrogen, entire phosphorus and potash as basai, 25% nitrogen at tillering and 25% at panicle initiation stage (T_7).

All treatments received a uniform dose of 90 Kilograms of nitrogen 45 Kilograms of phosphorus and 45 Kilograms of potash per hectare. Farm yard manure was applied as basal dressing at the rate of 5 tons/hectare. The experiment was laid out in randomised block design with three replications, with a net plot size of 35. 72 sq. meters. The test variety was IR-8.

Data on grain yield showed that relative efficiency of complex fertiliser in increasing yield was more than that of straight fertilisers. Treatments, 1, 2, 4, 5 and 6 were on par and significantly superior to treatment T_7 in increasing grain yield. Plots with application of complex fertiliser (full quantity) 10 days after planting recorded maximum yield of 2951 kg/ha. of grain followed by T_4 i.e. application of complex fertiliser 50% as basal and 50% at tillering stage (foliar) with 2862 kg/ha and T_6 i.e. application of complex fertiliser 50% as basal, 25% at tillering and 25% at panicle initiation stage (foliar) with 2835 kg/ha. The foliar application of complex fertilisers proved to be better than the soil application when it was applied in split doses.

The data on straw yield indicated that there was no significant difference between the treatments. But minimum straw yield of 3706 kg/ha was obtained with the application of straight fertilisers.

Table 1 Mean yields of grain and straw (Kg/ha)

Treatments	Grain in Kg/ha	Straw in Kg/ha
T ₁ Complex fertiliser full quantity as basal dressing	2600	3876
T ₂ Complex fertiliser full quantity 10 days after planting	2951	4325
T ₃ Complex fertiliser 50% basal and 50% at tillering stage (soil application)	2384	3922
T ₄ Complex fertiliser 50% as basal and 50% at tillering stage (foliar application)	2862	4155
T ₅ Complex fertiliser 50% as basal, 25% at tillering (soil) and 25% at panicle initiation stage (soil)	2700	4678
T ₆ Complex fertiliser 50% as basal, 25% at tillering (foliar) and 25% at panicle initiation stage (foliar)	2835	4617
T ₇ Straight fertilisers 50% nitrogen, entire phosphorus and potash as basal, 25% Nitrogen at tillering and 25% at panicle initiation stage	2232	3706
C. D. at 5%	292	—

സംഗ്രഹം

സങ്കീർണ്ണ രാസവളം (17: 17: 17) നെൽപ്പാടങ്ങളിൽ ഏതു രീതിയിൽ ചേർത്താൽ കൂടുതൽ വിളവ് കിട്ടുമെന്ന് കണ്ടുപിടിക്കുന്നതിനു വേണ്ടിയുള്ള ഒരു പരീക്ഷണം (1976) നെല്ലുപയോഗ കേന്ദ്രത്തിൽ 1976-ലെ മുണ്ടകൻ കൃഷിക്കു നടത്തുകയുണ്ടായി. കൂടുതൽ വിളവ് ലഭ്യമാകുവാൻ സങ്കീർണ്ണ വളമാണ് നേർവളങ്ങളേക്കാൾ മെച്ചപ്പെട്ടതെന്ന് ഈ പരീക്ഷണം തെളിയിച്ചു. മേൽവളമായി നൽകുമ്പോൾ ഇലകളിൽ തളിച്ചാൽ (പർണപോഷണം) കൂടുതൽ വിളവ് കിട്ടുമെന്ന് കണ്ടു.

REFERENCE

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