

### ON THE RESPONSE OF IR-8 PADDY TO HEAVY FERTILIZATION

It has been well established that to fully exploit the yield potential of high yielding varieties of paddy application of heavy doses of fertilizers is essential. The high yielding variety IR-8 is being recognised by cultivators as promising for large scale cultivation under Kerala conditions. However, experimental evidences on the response potentialities of this variety to very heavy doses of fertilizers particularly under the *punja* crop conditions are lacking. The present investigation was therefore taken up in the *Kayal* lands of the Agricultural College and Research

Institute Farm, Vellayani, during the third crop season in 1967-'68 to study the response of the variety to high doses of fertilisation. The fertilizer treatments were as shown in Table 1.

Lime and green manure were applied at uniform rates of 500 and 5000 Kg/ha respectively to all the plots. The experiment was laid out in a randomised block design with four replications. The plot size was 6.3x6.0 m. Two seedlings were planted per hill at a spacing of 15 x 10 cm. Table I gives the results.

**Table 1**

Mean yield of paddy grains under different fertilizer treatments.

Treatment No.	Proportions of the fertilizers in Kg/ha					Mean yield in Kg/ha
	N	P	K	MgCo <sub>3</sub>	Na <sub>2</sub> SiO <sub>3</sub>	
1	75	75	75	..	..	6407.29
2	100	75	75	..	..	7094.16
3	100	75	100	..	..	7086.47
4	125	75	100	..	..	7875.85
5	150	75	100	..	..	8631.91
6	150	75	100	100	..	8790.81
7	150	75	100	100	50	8934.34
	C. D. (0.05) 438.3					

It is seen that there is significant difference between the treatments. The response to nitrogen has been studied by fitting a linear mode. The linear response function is found to be satisfactory and the residual variation is not significant indicating that linear model is a good fit-

The linear response function is  $Y = 24.86 + 2.92 \left( \frac{N - 75}{20} \right)$ . This indicates that there is a progressive increase in the yield of grains due to increases in the levels of nitrogen. Similar responses up to 160 kg/ha of nitrogen has been reported earlier

CONOCEPHALUS PALLIDUS ON PADDY

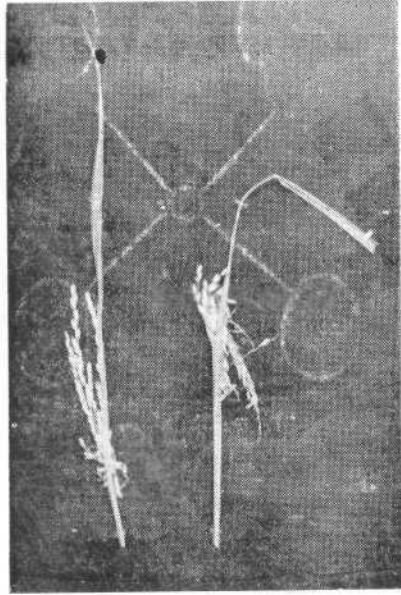


Fig. 1

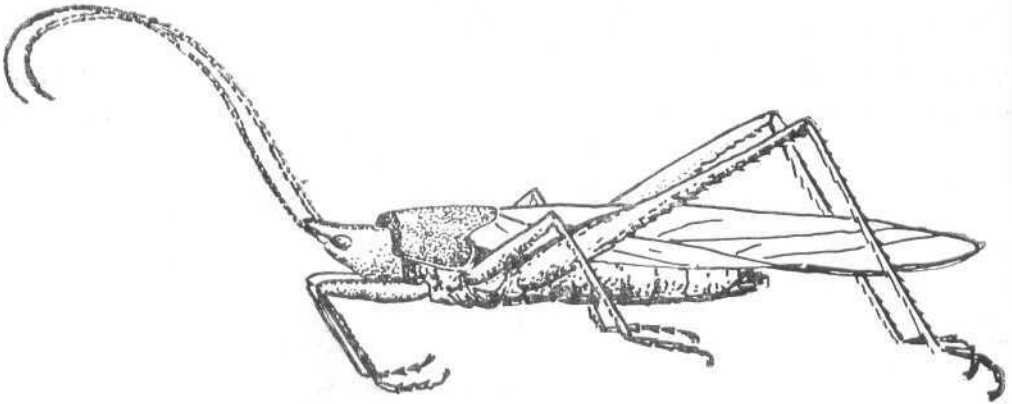


Fig. 2

Fig. 1. Paddy earheads damaged by *C. pallidus*.

Fig. 2. Adult of *C. pallidus*.

(Anon. 1968). As regards the effect of potash no increase in yield is evident over and above 75 kg/ha. Magnesium carbonate alone is not seen effective. However, the application of magnesium in combination with silica shows a tendency to increase the grain yield even though it is not statistically significant. Similar beneficial effect due to a combination of magnesium and silica has been reported earlier by George and Sreedharan (1966)

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### References

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