

EFFECT OF METHOD OF ESTABLISHMENT AND METHOD OF  
WEED CONTROL ON GROWTH, YIELD AND YIELD  
COMPONENTS IN RICE (Orvza sativa L)  
UNDER IRRIGATED CONDITIONS IN THE

BATTICALOA DISTRICT

BY

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ABSTRACT

An experiment was conducted at Keluthimadu in the Batticaloa district to study the effect of methods of establishment viz. Broadcast sowing, Row sowing and Transplanting on yield, yield components and on degree of weed control in rice. The methods of weed control viz. Hand weeding and M.C.P.A + 3,4 D.P.A combination were also tested along with methods of establishment to find out which of the treatments effectively controlled weeds and increased yields.

At 25 days after sowing (DAS) transplanted plots showed significant increase in shoot/root ratio but in both row sown and broadcast sown the shoot/root ratio was similar. At 70 DAS, Compared to broadcast sown plots the transplanted and row sown plots showed significant increase in shoot/root ratio.

At 35 DAS, the highest tiller number (4.11) per plant was found in Transplanted plots followed by that in row sown and broadcasted plots. The tiller number per plant in row sown plots was significantly lower than that in transplanted plots.

At 55 DAS, again tiller number was highest (4.33) in transplanted plots compared to that in broadcast and rowsown plots. The tiller number in row sown and broadcasted plots did not significantly differ. At 105 DAS, there was no significant differences between treatments.

At harvest transplanted plots showed higher number of grains per panicle and percentage filled grains and there was no significant difference in these parameters between row sown and broadcast sown methods. Method of establishment didnot affect number of panicles perplant and thousand grain weight transplanted method gave t e highest yield. There was no significant difference in yield between broadcast and row sown plots.

At 35 DAS, both hand weeded and chemically weeded showed an increase tiller number perplant compared with that in unweeded control. These results were similar at 55 DAS as well. At 105 DAS, no difference intiller number per plant was observed with different methods of weed control.

At harvest both hand weeded and chemically weeded plots showed increase in number of panicleper plant when compared with unweeded control. methods of weedcontrol didnot affect number of grains per panicle, percentage filled grains and thousand grain weight. Yield was highest in hand weeded plots and the difference in yield betweeb hand weeded and chemically weeded stastically significant.

At all stages of growth transplanting resulted in significant reduction both in dry weight of weeds and total number of weeds. The dry weight ang number of weeds in row sown and bradcast sown were similar.

At 25 DAS, the dry weight of weeds and number of weeds were similar in unweeded and hand weeded plots and significantly lower in chemically weeded plot. At 70 DAS and 105 DAS, the dry weight of weeds and number of weeds were lowest in chemically weeded and hand weeded plots compared to that in unweeded control.

At 25 DAS and 70 DAS, there was significant interactions between the methods of establishment and methods of weed control on dry weight of weeds. At 25 DAS, dry weight weeds were low in transplanted - weed control methods plots and high weights were obtained from broadcast sown-unweeded plots. At 70 DAS, both transplanted and rowsown plots with weeded treatments showed a better control of weeds.

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