

PREPLANTING TREATMENT OF PADDY SEEDLING

Transplanting is one of the important methods of planting paddy (Matsushima, 1976 and Alluri, 1978). Apart from the properly prepared field, the ease of hand transplanting is mainly influenced by the easily separable nature of individual seedlings taken for transplanting. If the seedlings are pasted together by twisting roots and adhering soil particles, easy separation of the seedlings is difficult which will interfere with the speed of transplanting. Grist (1978) observed that in most of the countries the practice is to pull the seedlings, tie them into bundles of convenient size for handling, rinse the roots in water to remove soil and cut off the top few inches of leaves to reduce evaporation and render rigidity to plants. But this may vary in different places. In Malaysia roots and top of seedlings are cut preparatory to transplanting (Grist 1978). In Malabar a ripening process of seedlings by arranging the bundles in circular heaps with roots exposed for three or four days is practiced before transplanting (Ramaiah, 1937). Similarly in central and southern Kerala while transplanting the long duration tall rice varieties, a common extensively practiced method by the paddy farmers, is beating the seedlings on some wooden materials, usually coconut leaf sheath to remove the soil adhering the root system. But there is a belief that the probable physiological injury to the young seedlings while beating may affect on the growth and yield in due course. The present investigation was therefore undertaken to compare the different practices followed in preparing paddy seedlings for transplanting. There is very little information regarding the preparatory methods employed for rice seedlings before transplanting.

The experiment was conducted at the Rice Research Station, Kayamkulam during the mundakan season of 1978-79. The variety tried was Ptb 20, a very popular tall long duration variety. The experiment was laid out in RBD with three treatments and seven replications in plots of size 6 m x 5 m.

- Treatment No. 1 (T_1) uprooted seedlings were planted as such
Treatment No. 2 (T_2) uprooted seedlings were planted after washing the roots
Treatment No. 3 (T_3) farmers' practice (i.e., uprooted seedlings were beaten on coconut leaf sheath before planting)

Experienced labourers with almost uniform turn out were employed for preparation, transporting and transplanting of the seedlings. Time taken for all the above operations was recorded separately. For transplanting, only one labourer was employed in each plot. Though line planting was avoided deliberately to get the actual situation in the farmers' field, extreme care was taken to accommodate uniform number of hills per plot. Based on the mean time taken for individual operations, labour requirement per hectare was worked out and presented. Cultivation practices were in accordance with the package of practices recommendations of Kerala Agril. University (Anon, 1978). Observations were taken on average productive tiller per hill, and yield of grain and straw per plot.

Data on productive tiller counts and straw and grain yield are given in Table 1. Productive tiller counts showed significant variation between treatments. T_1 and T_3 showed statistical parity. T_2 was inferior to T_1 , but on par with T_3 . Both in straw and grain yield, the treatments do not differ significantly and T_2 showed slight increase over the others. The decreased number of productive tillers showed by T_2 can only be attributed to experimental error especially when it exhibited a slight increase in both straw and grain yield. So whatever be the preparatory methods employed for rice seedlings before planting, it will not effect either the straw or grain yield.

Barring the uprooting of seedlings which is common to all treatments, labour requirement per ha for all other operations viz., preparation, transportation and transplanting of seedlings is worked out and presented in Table 2. The labour requirements of men and women were 2-35, 5-37 and 9-26 respectively for T_1 , T_2 and T_3 . For transplanting alone, T_1 took 35 women and T_2 31 while for T_3 it was only 26 per ha. This will clearly explain the ease of transplanting due to the removal of root-mud mass to the required extent by the local practice. Further, in terms of total cost involved for transplanting, T_1 stood highest with Rs 546/ha (men @ Rs 14 and women @ Rs 12 followed by T_2 with Rs 514/ha.) T_3 was the cheapest method with

Table 1

Productive tiller count, straw yield and grain yield as influenced by the different methods of seedling preparation

Treatment	Productive tiller count/hill	Straw yield kg/plot	Grain yield kg/plot
T_1	13.16	24.83	8.73
T_2	10.55	27.64	8.94
T_3	11.94	25.37	8.40
SEm±	3.476	5.068	3.322
C.D. (0.05)	2.094	—	—

Table 2

Labour utilization for preparation, transportation and transplanting of seedlings as influenced by different treatments

Treatment	Labour requirements per ha							
	Preparation		Transportation		Transplanting		Total	
	M	W	M	W	M	W	M	W
T_1	—	—	9	—	—	35	9	35
T_2	—	5	5	—	—	31	5	37
T_3	4	—	5	—	—	26	9	26

an amount of Rs 438/ha, saving Rs 108 and Rs 76 per ha over T₁ and T₂ respectively. Here comes the logic in local practice of seedling preparation which reduces considerably the labour requirement for hand transplanting, a slow process consuming more labour than any other operations in paddy planting.

സംഗ്രഹം

മുണ്ടകൻ വിളയ്ക്കു നടുനതിനുമുമ്പ് മടലുകളിൽ അടിച്ചു ഞാറിൽനിന്നും മണ്ണും ചെളിയും രീതി ചെയ്യുന്ന രീതി നെൽക്കൃഷിക്കാരുടെ ഇടയിൽ വളരെ പ്രചാരം സിദ്ധിച്ചിട്ടുള്ള ഒന്നാണ്. എങ്കിലും ഇങ്ങനെ "ffl^jt^jrmmsajOsne" ഞാറിന് കൃഷ്ണമേൽക്കുമെന്നും തപാലാ നെല്ലിന്റെ വളർച്ചയെയും വിളവിയെന്നും അതു ബാധിക്കുമെന്നും ഒരു വിശ്വാസം നിലവിലുണ്ട്. 1978-79 മുണ്ടകൻ സീസണിൽ കായംകുളം നെല്ലുഗവേഷണ കേന്ദ്രത്തിൽ നടത്തിയ ഒരു പഠനത്തിൽ മേൽപറഞ്ഞ ffl^j^jTffj ഞാറു roicgj5oo<ao1 നടുനതുകൊണ്ട് വളർച്ചയിലും വിളവിലും യാതൊരു കുറവും വരുന്നതായി കണ്ടില്ല. കൂടാതെ ഈ രീതികൊണ്ട് നടീൽ ചെലവ് കാര്യമായി ലാഭിക്കാമെന്നും തെളിഞ്ഞു.

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