Evaluation of rice transplanter at different age of seedlings and spacings (Kubota model)

U Vineetha, P Sujathamma, P Rameshbabu, P Raja Sekhar, P N Harathi and I Paramasiva
Acharya N. G. Ranga Agricultural University, India

Transplantation in paddy is becoming more and more expensive due to increased labour wages and unavailability of labour during peak agricultural season. So mechanization is the only substitute to the human labour which reduces the drudgery and allows timely transplanting. The use of mechanized transplanter increased rice yields by 3.5 to 4.0 q/acre and decrease of cost by 50% (Harish Damodaran, 2000). Mechanical transplanter saves about 78% labour and 48% of cost of operation compared to manual transplanting with higher grain yield (Giri Rao, 2008 and Katyal, 2008). Present study has taken up at Agricultural Research Station, Nellore to evaluate the rice transplanter (Kubota model) with different age of seedlings and spacings. The experiment was conducted in sandy clay loam soil with 0.81 % O.C, 7.67 PH & 0.761 EC (dsm⁻¹). The available nitrogen, Phosphorous and Potassium were 313, 75.3, and 1167 kg/ha respectively. Field trial was laid out in Split plot design considering age of seedlings ($A_1$ -12 days, $A_2$ -15 days and $A_3$ -18 days) as main plots and spacings ($s_1$ - 30x12, $s_2$-30x14, $s_3$-30x16, $s_4$-30x18 and $s_5$ - 30x21cm) as subplots and replicated thrice.

The results of the present study revealed that, Highest grain yield (6280 kg/ha) was observed when transplanting was done with 12 days aged seedlings and was on par with 15 and 18 days. Hence age of seedlings from 12-18 days has no significance in grain yield. Transplanting with a spacing of 30x15 cm recorded the highest yield (6237 kg/ha). However there is no significant yield difference with different intra row spacings i.e from 12-21 cm (Inter row spacing of 30 cm is constant) when transplanting was done with 6 row Kubota transplanter.

vineethaharanath@yahoo.co.in