

Studies on the Improvement of Fertilizer Applicator Annex to Power Rice Transplanter¹

Wang. M. M.²

Abstract

The power rice transplanter combined with deep-layer fertilizer applicator was developed by this study. This machine could transplant six rows of rice plants at one time and fertilizer was incorporated with soil completely at 6 cm under ground. The efficiency of the machine including transplanting and fertilizer application was over 1.5 ha/day, if the machine works for 8 hrs per day.

This machine was derived from transplanter of YP-650 type which was provided by the Yu-Nung Company. The fertilizer applicator was attached to the transplanter. The field tests indicated that transplanter and applicator could work simultaneously because conveying fertilizer was propelled by the transplanter arm. Fertilizer application with the machine could reduce about 2 to 3 times per crop season and save 25% of nitrogen fertilizer than that of traditional manual fertilization .

The rice plants grow well and more grains were harvested from the experimental fields. On May 7, 1997 at Mr. Huang Guang paddy fields in Shin-yen village, Pingtung, a field day was laid out to introduce the machine to farmers. Besides, the machine was lent to farmer who is in charge of farm machinery operation, he could finish 20 ha during the first rice crop of 1997. It indicated that the machine has good characteristic and maintain in good shape on the field test. Thus, it is worth while to recommend the machine to farmers.

Keywords: rice, transplanter, fertilizer applicator, machine characteristic.

¹ This project was supported from the Council of Agriculture, Executive yuan, Taiwan, R. O. C.

² Associate Agronomist, Kaohsing District Agricultural Improvement Station.