

# **Study on Attached-Type Paddy Weeding and Fertilization Machine**

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## **Abstract**

Taiwan is located in the subtropical zone, the weeds grow rapidly. The organic and friendly environment rice cultivation cannot use herbicides. Field weeds need to be controlled by manual operation, but the efficiency is low. And manual to apply additional fertilizer is also a laborious and hard work. To reduce the labor of manual weeding and fertilization, improve efficiency and reduce the cost, we developing the attached-type paddy weeding and fertilizer application machine. This machine is powered by the riding type rice transplanter body, and cooperates with the developed weeding and fertilizing mechanism. After attached to the vehicle body, the working efficiency is 0.5-0.6 ha/hr. In the organic paddy field in Chihshang, the weed control effect and yield tests were carried out. After 2 times of weeding, the average rate of control of non-planty weeds such as valerian was 69.1%, and scented weeds was about 27.4 %, weed density increased with no mechanical weeding. Using mechanical weeding twice, the rice yield increased significantly 9.2% than no weeding. The attached paddy field weeding and fertilizing machinery is more powerful than manual weeding or old type three-row paddy field weeding machine, it also can greatly improve the operation efficiency and uniform fertilization. It can be used in organic cultivation fields to increase production and improve farmers cultivate income but reduce people's work.