

**Entry No. IRRC-0139**

Category : International Rice Research Conference

Select Theme : Disruptive technologies and innovations

Endorsement email :

Keyword 1 : Innovation systems

Keyword 2 : Precision agriculture

Keyword 3 : Social inclusivity of technologies

Title of Entry : Effects of Drum Seeder Pulled by Power Tiller on Growth and Yield of Sen Pidor Rice Variety

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Select only one type of presentation

: 15 minute oral presentation

Abstract

: Effects of Drum Seeder Pulled by Power Tiller on Growth and Yield of Sen Pidor Rice Variety Sokleng Mang1, Chan Makara MEAN1\*, Lyhour Hin1, Po Vengleang 1, Gerald Hitlzer2, Lytour Lor1 1. Faculty of agricultural Engineering, Royal University of Agriculture, Cambodia 2. International Rice Research Institute (IRRI), Cambodia \*Corresponding Email: meanmakara321@gmail.com Rice broadcasting is increasingly practiced in Cambodia due to agricultural labor shortages. However, these practices lead to overuse of rice seeds (200-300kg/ha) and scattered plant growth, which is linked to intensive pesticide use to maintain the yield. To solve these problems, the study aims to introduce a first locally made drum seeder, pulled by a power tiller. The study aimed to compare the seeders' working performance with conventional rice broadcasting, and further assess its economy in rice production. The study had been carried out in dry-land conditions in Kbal Po Station, situated in Takeo province, Cambodia. The trials started in July and run until December 2017. Sen Pidor, a fragrant rice variety, was chosen for the experiment. Because of land size constraints, the experiment contains only two treatments, plots sized 17 m x 22 m, with no replicates. The data to be collected include operational speed, seed density, quantities of rice seeds consumed, plant height, number of plants per hill, stem diameter, hill density, panicle length, number of grains per panicle, and total yield. The results show that the field capacity of drum seeder during field operation was 1.96 hr./ha whereas the field capacity of hand broadcasting was 3.99 hr./ha. Seed density of the rice plot done by hand broadcasting was 494 grain per square meter. Compared to drum seeder, it is dramatically higher because the drum seeder applied only 243 grain per square meter. During the growth, it was observed that average of rice stem's length of drum seeder practice was 83.8 centimeter while rice stem length hand broadcasting practice was 73.74 centimeter. After the harvest, the yield of the drum seeder plot got projected 5.28 ton per hectare while the yield of hand broadcasting got projected 4.6 ton per hectare at an average moisture content of 22

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