[P2] Farming System

Thu. Sep 9, 2021 12:15 PM - 2:00 PM Room 2 (Poster) (Farming System)

12:15 PM - 1:00 PM

[P2-15]Using a High Density Seedling Mat Reduces Transplanted Rice (*Oryza sativa* L.) Production Costs: A Case Study in Vietnam

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Planting seedlings using high density rice seedling mats requires fewer trays, reducing the costs of producing seedlings by decreasing the necessary materials and labor. To identify if this method impacted growth and yield, experiments were carried out from November 2016 to March 2017 on a farm in Long An province, Vietnam using the rice (*Oryza sativa* L.) variety IR4525. Twice the conventional amount of dry seed, 250 g, were sown per tray at a high density and left to germinate for 16 days. From each high density seedling mat, 4–6 seedlings were picked per hill and planted by a rice transplanting machine. The machine used was a seven-row planter with 25 cm rows, and it was optimized to select a small area of the seedling mat. Two planting density sizes at the paddy field, 25 × 16 cm and 25 × 22 cm, were tested. As a result, each seedling's leaf age were 3.2 - 3.5, and the height of seedlings was 12–18 cm at the time of planting. The number of high density seedling mats used for transplanting were 134 and 106 per ha, respectively, which is about half of the number of seedling mats used in conventional transplanting. Grain yields were 8,052 and 7,707 kg per ha for the 25 × 16 cm and 25 × 22 cm planting density trays, respectively, which did not differ from conventional method yields. Given these results, the average yield of the high density transplanting method is similar to conventional method yield. Furthermore, this new methodology does not change conventional nursery management or require new nursery materials.