

Thesis Title Improvement of Seed Metering Plate for Corn Seeder

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ABSTRACT

This research had improved the small Seed Metering Plate used for corn seed dropping in the peripheral tillers. The objectives were (1) to determine the plate thickness on the accuracy and the damage of corn seeds drops and (2) to compare the plate materials, between steel and plastic. Laboratory Experiments were carried out with 10 plates; five were steel and the others were plastic. The thicknesses of the five steel plates were 3, 5, 7, 9 and 11 mm. All plate had diameter 150 mm, eight holes of seed dropping were made on each plate, each hole was diameter 10 mm. For each experiment, a plate was rotated at a constant speed of 14 rev/min. It was found that, for the steel plate, the best thickness was 5 mm, the given set of seed drops at 112 seeds/min at 95% accuracy. When comparing the plastic and steel plate, the steel plate was better as it gave less seed damage.

Keywords: corn dropping plates, Percentage of damage, Percentage of discrepancy, the accuracy of the dropping, 5mm thick steel plates