

## DESIGN, DEVELOPMENT AND EVALUATION OF A DISC-TYPE CORN SEEDER

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In corn farming, one contributory factor to low yield is over population due to manual planting. Thus, a prototype disc-type corn seeder was developed and evaluated as to seeding efficiency, capacity and number of seeds dropped or germinated per linear meter. The 2-row seeding machine which was primarily designed for planting corn was also tested using mungbean, soybeans, peanut and *palay* to determine its usability and applicability.

The study was undertaken to design a disc-type corn seeder that is affordable as compared to currently available corn planter; simple and thus can be fabricated in a local machine shop; light in weight and thus can be manipulated by women; usable for other cereals; and is adaptable to local farm size and conditions.

The number of seed germinated per linear meter and plant height was gathered at 15 days after planting (DAP). Data on the number of seeds germinated per linear meter was analyzed in completely randomized design (CRD) with five replications.

Laboratory testing and actual field evaluation were carried out in Batac and Bacarra, Ilocos Norte under three soil types: clay (heavy), silt (medium) and sandy (light).

Results revealed that the device had a seeding efficiency of 96 -100%. Field evaluation also showed that the three types of soil had no significant effect on the number of seeds dropped or germinated per linear meter with an average seeding rate of 130,675 plants ha<sup>-1</sup>. On the other hand, the average field capacity and manpower requirement were noted to be 0.76 ha day<sup>-1</sup> and 1.40 MD ha<sup>-1</sup>, respectively. As compared to the traditional practice, a savings in labor of 82 – 86% can be realized by using the seeder.

In terms of acceptability, all the farmers interviewed said that the machine is acceptable because it is easy to operate, simple in design and mechanism, light in weight, requires lesser labor in planting and can also be used for seeding other seeds.