

Development of Mini Tractor Drawn Punch Planter for Maize Crop

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ABSTRACT

A mini tractor drawn prototype punch planter for maize crop was designed and fabricated in the work shop of Department of Farm Machinery and Power, College of Agricultural Engineering, Bapatla, Andhra Pradesh. The prototype punch planter was designed and developed on the optimum values of influencing parameters. The idea to put the seed in the hole made by the punching mechanism was identified. The major two mechanisms are involved in this development. The first one is making the hole/punch in the soil and second one is to drop single seed in the holes/punches. The PTO power of mini tractor (18.5 HP) was used to operate the punch planter. Based on the PTO lever and gear combinations 10, 16, 24, 35 and 53 cm punch spacings were obtained. Experiments were conducted at different forward speeds of the tractor and concluded that there is no effect of forward speed on punch spacing. Vertical seed metering mechanism was used to meter the seed.

Key words: *Metering mechanism, PTO lever, Punch planter,*