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Effect of selected parameters on funnel side slope angle for smooth dropping of seedlings in semi-automatic vegetable transplanter

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■ ABSTRACT : Studies were conducted on a two row semi-automatic vegetable transplanter to determine the optimum funnel side slope angle in the feeding and metering mechanism at different seedling ages and different types of seedlings. The optimum side slope of the funnel has been decided by laboratory experimentation so that not a single seedling sticks to the funnel side after being dropped from the finger tray of the feeding mechanism. The experiments have been designed as a three Factors Complete Randomized Design with four replications. It was found that, at funnel side slope angle of less than 75° with the horizontal, the per cent of seedlings slipped into the drop tube decreased as the length of seedlings increased. At side angle of funnel of 75° and more, 100 per cent seedlings were slipped into the drop tube irrespective of crop and size of seedlings. Behaviours of different crops were found to be different below 75°. The crop with less foliar development such as chilli slipped more easily than other crops having more foliar development such as brinjal. So a funnel side slope angle of 75° has been taken as optimum to ensure cent per cent slippage of seedling from side of the funnel to the dropping tube for all crops under study.

- **KEY WORDS** : Furrow opener, Funnel, Finger trays, Dropping tube, Slope angle
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