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Optimization of the shape and size of seed plate orifice for accurate single seed planting of the crops

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■ **ABSTRACT :** The shape and size of seed plate orifice were decided on the basis of the dimensions of the different seeds. For all the seeds, the shape of the seed plate orifice showed its effect upon the planting accuracy. For cotton, groundnut and sesame seeds, best results were found with elliptical shaped orifice, with longer and shorter axis (5, 4.50), (3, 2.50) and (1.50, 1) mm, respectively. Whereas, for okra seed, the optimum seed plate orifice shape was circular with 3 mm diameter. For positive release of the sesame seed, air velocity of 3 m/s through chamber open to atmosphere showed best results.

■ **KEY WORDS :** Pneumatic planter, Single seed planting, Orifice size, Lighter, Bold seed planting

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