



Vegetable Pneumatic Seed Sowing Machine (Modified)

Technical Brief

Ref No: TechBrief/2025/15

Technology Summary

This improved Pneumatic Seed Sowing Machine is designed for vegetable nurseries, compatible with the standard 9-row tray system. Modifications include redesigned impression, seed tube, and nozzle brackets to improve efficiency and alignment. The machine ensures uniform seed sowing in trays, improving germination rates and nursery productivity. It provides a ready-to-use solution for nurseries that earlier faced compatibility issues with standard trays.

Background

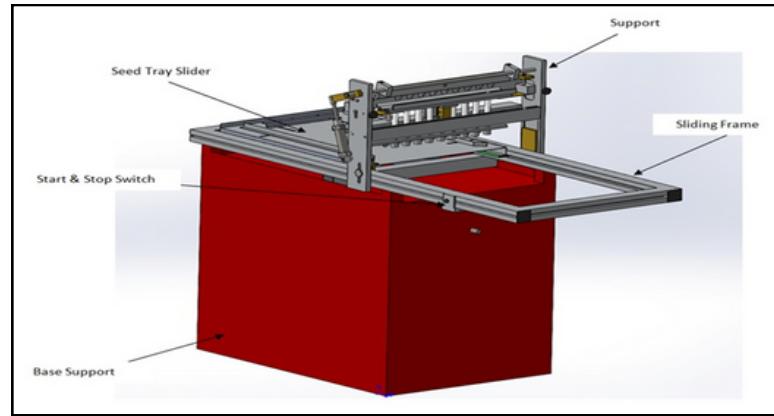
Existing pneumatic machines in vegetable nurseries lacked compatibility with traditional 9-row trays, reducing efficiency. Farmers and nursery operators faced difficulties adapting to the mismatch. This machine resolves the issue through precise re-engineering of components, making it directly usable for current nursery practices. By improving uniformity in seed placement, it supports the growing demand for high-quality seedlings in India's expanding horticulture sector.

Technology Description

The modified design allows accurate placement of seeds in 9-row trays commonly used in nurseries. Bracket and nozzle designs were improved for better seed distribution and machine compatibility. Reverse engineering methods ensure future scalability. The new design minimizes seed wastage, increases sowing speed, and ensures better synchronization with nursery tray standards.

Market Potential / Proposed Deployment

- Nursery sector in India expanding rapidly under protected cultivation schemes.
- Growing demand for mechanized seedling production in vegetable clusters.
- Strong potential in high-value states like Punjab, Haryana, and Maharashtra, where horticulture adoption is accelerating.
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Applications

- Vegetable nurseries (tomato, capsicum, chilli, etc.): Achieves uniform sowing across crops.
- Seed tray sowing operations in greenhouses and FPOs: Increases efficiency for collective farming setups.
- Agro-based input companies: Helps companies standardize nursery practices with reliable mechanization.

Value Proposition

- Compatible with standard 9-row trays, reducing manual adjustment effort.
- Higher efficiency and reduced seed wastage, ensuring cost savings for nurseries.
- Improved design via reverse engineering allows long-term scalability.
- Easy adoption in existing nursery setups ensures minimal transition cost.

Technology Status

- TRL 8-9 (Field ready; technology transferred).
- Outcome: Improvements completed, technology transfer done.
- Successfully field-tested in vegetable nurseries, proving compatibility and efficiency.

