Automatic Vegetable Seed Planting System Based on Computer Numerical Control (CNC)

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ABSTRACT

Planting crop seeds is a crucial element, as good seeds will determine the initial success of subsequent cultivation. Each agricultural product has different characteristics regarding the seed planting system. Traditional vegetable seed planting remains inefficient, and there are no tools to help farmers increase the production of vegetable seedlings. The use of an automatic vegetable seed planting system based on Computer Numerical Control (CNC) can enhance farmers' productivity and work efficiency. Testing parameters included accuracy in seed planting positions, evaluated with 4 seeds, 5 seeds, and 8 seeds, as well as row positions. The study's findings, assessed using Mean Absolute Error (MAE), showed positional accuracies of 1.01% per seed and 1.81% per planting row.

Key words: Seed Planting, Computer Numerical Control (CNC), Position Accuracy