

# Verification of Seeder Construction Technological Design to Sow Large Fruit Seeds

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*Now days various seeders to sow acorns that don't ensure accurate large-sized seed sowing are applied in oak planting stock production in forest nurseries. It results in planting stock quality reduction and decrease of rated standard oak seedling output. Analysis of available seeder designs resulted in verification a principal seeder design for large fruit seeds consisting of key executive units: seed bin, seed feeding unit, seed tube, seed boot, seed coverer, support and drive wheels and packer wheels. A basically new seed feeding unit is proposed shaped as a chain with regulated volume cells. Such seed feeding unit design ensures acorn single-piece even sowing with regard to its size. It was found that sowing rate depends on seed feeding unit chain speed, number of cells and its spacing. Seed feeding unit drive kinematic analysis resulted in proposed relationships to estimate seed feeding unit chain speed, cell spacing, and gear ratio from support drive wheel to seed feeding wheel. The found analytical relationships are recommended for application in development of seeders to sow large fruit seeds.*