

Design of a Portable Dates Cluster Harvesting Machine

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ABSTRACT

The dates harvesting is one of the most important farming operations. In Algeria, this practice is still carried out manually by climbing up the tree, but this operation is expensive and there is lack of skilled workers, also because of the increasing number of palms due to the new plantings that have been going on in the past years. Algerian farmers can't afford expensive machinery such as motorized elevators so the problem has been addressed by developing a manual aid that allows carrying out this operation easily and safely.

This harvesting aid, which includes four components, namely: stabilizing platform, lifting device, lowering device and cutting device, can be carried around manually and fixed at the base of any palm trunk and used to cut and lower whole clusters without having to climb the palm.

The trials that have been carried out show that with the use of this device a cluster at a height of 6.5 m can be picked and lowered in about 3 minutes after the gear has been set.

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