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MINISTRY OF AGRICULTURE, LAND AND FISHERIES



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Harvesting Methods and Equipment

for

Cassava Production

Cassava is highly perishable, in fact, within 4 days of harvest, the majority of tubers spoil and are no longer fit to eat. It is important that harvesting takes place quickly and the tubers are pulled from the ground undamaged to minimise crop losses, both as yield and economically.

KEY POINTS

- Farmers should harvest only the amount of crop that is needed for his market and should harvest close to the time that it is needed.
- Manual harvesting is labour intensive and should be done in a careful manner to minimize harmful impact on the tubers.
- Farmers on commercial farms have modified equipment to assist in the harvesting activity.

Small Holding Farm

Cassava planted on small plots are usually harvested by hand. The tops are cut off leaving a 60-90 cm piece of trunk still attached to the buried tubers.



Photo source - RS Ramsingh MALF Rio Claro

Trimming off the Cassava tops
Approximately 2 weeks prior to harvest

This stalk is used as a lever to gently rock the tubers back and forth while the soil is loosened with a fork. If this method is applied with care, most of the tubers will be harvested undamaged.

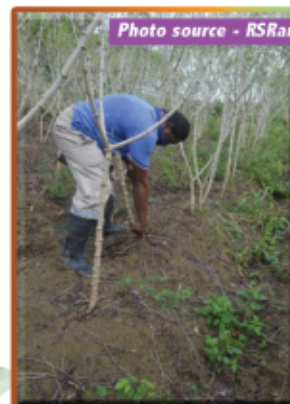


Photo source - RS Ramsingh MALF Rio Claro

Loosening the tubers

Manual harvesting is very labour intensive, requiring skill and patience to not rock too vigorously and break all the tubers. The soil type and moistness must also be considered; harvesting is a lot easier on a sandy loam than a heavy clay, and generally easier on damp soil than dry soil. No special equipment is needed and since each plant is harvested individually, the tubers can remain in the ground until needed. This allows the farmer some leeway with markets; he can harvest when market prices are highest and only harvest the amount that can be sold.

Farmers can also use a lever to help uproot the tubers with minimal damage.

Commercial

Most of the un-mechanised, commercial farmers harvest their cassava in a similar manner. Due to the scale of the operation, entire rows are harvested at the same time. Commercial farmers employ labour to harvest and the cost can be quite high since it is estimated that it takes between 22 to 51 man-hours to harvest a hectare (ha) of cassava.

Mechanical Harvesting

Modified Tractors

There are modifications some farmers have made to mould board ploughs that allow them to use the tractor to harvest the cassava. This has proven to be quite helpful, but it is done on an individual basis with each modification unique to that particular farmer and soil condition.

Planters and Harvesters

There are several machines that can be used for mechanised planting and harvesting of cassava. The machines are usually classed by the number of furrows they plant (and harvest) at a time, the one and two furrow models are suited for the Caribbean.



Cassava Harvester

The machines require flat land that has already been ploughed and rotovated with the one row model being most tolerant of slopes. A tractor is required to pull the machine and to provide power to the cutting blades. One worker is needed to feed stakes for each row being planted. A two row cassava planter can plant up to 6 ha (14 acres) per day. Some machines allow fertiliser to be applied at the same time as planting.

A mechanical harvester uproots the cassava from the soil, removes most of the soil from the tubers which are then manually separated from the stem. Some machines can harvest 5 ha/day; it would take 22-51 man-days to harvest 1 hectare.

Mechanisation reduces the number of workers needed, an important consideration in Trinidad and Tobago, where labour is both expensive and in short supply.

Front & Back Photo source - RSRamsingh MAF Rio Claro

SUMMARY

**Harvesting is a critical activity since the tubers cannot withstand any damage and still remain viable.
Successful harvesting can be done manually semi-manually or mechanically, but land preparation is the key to harvesting tubers without damaging them.**

References

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