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Tools for collecting tree seed - Simple devices that makes seed

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Tools for collecting tree seed - Simple devices that makes seed collection easier

The challenge of seed collection

The main problem in seed collection is to reach and to tear off fruits or fruit bearing branches. Tools may be adapted to different species and purposes. Below is a list of versatile, light-weight equipment and accessories to ease collection

Secateurs

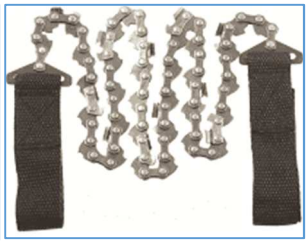
Used to cut branches or fruits off branches. A large selection exist. The main difference is their durability and ability to keep sharp during long time use.

Throw-bags

Sand bags tied to a rope can be used to throw lines above tree branches. Lines can be used to shake tree branches to release fruits, pull up rope ladders, safety lines or flexible saws. The bag must be relatively heavy e.g. 100-200 grams since it should be able to fall through the branches without being entangled in the canopy, and able to overcome friction of throwlines. A throwbag may be thrown 10-15 meters up into the tree by a skilled thrower.

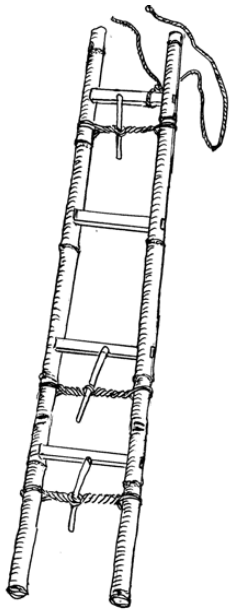
Flexible saw

There are factory made types of various kinds, and they can also be made from old chainsaw chains. Small pocket wire saws have the problem that they easily get jammed with resin.



Ladder

There are numerous light-weight extendable aluminium ladders available. If bamboo is nearby, below home-made ladder may be made on-site by the available material



Collection bags

Your hands should be used for picking fruits, not for carrying. Cone or fruit bags tied to the collectors belts or hooked up in the tree during collection is extremely useful during collection from the crowns

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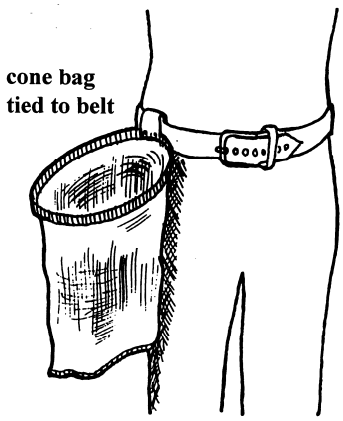


Tarpaulins

Tarpaulins are available in different materials, sizes and quality. They are used form spreading out under trees during collection, to cover seed from rain and direct sun, and for drying of fruits and seeds before and after extraction.

Poles

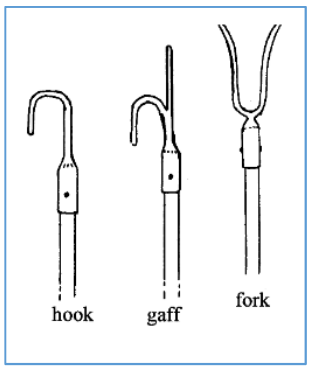
Household telescopic poles used, for example for window cleaning can be adapted to seed collection, although they are usually not very strong. Bamboo poles are versatile and strong. If they are to be carried over long distances they may be split into two pieces and assembled when in use. That also gives the options of using only the short piece, when the fruit branches are not very high. However, any fitting will be weaker than the intact material.

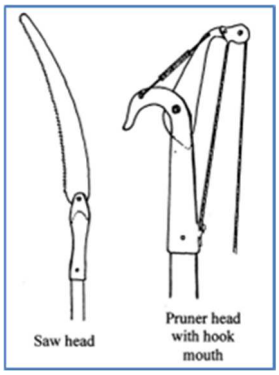
Tool heads

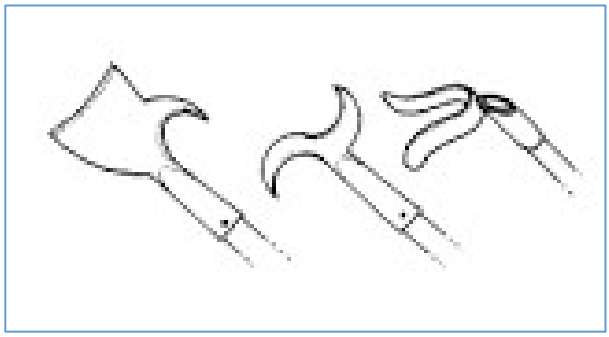
A simple and versatile head is a hook, which can be used for pulling down or shaking branches. A version of the hook has a sharp inner edge that can be used for cutting. An S-formed sharp hook is sharp on two edges and cuts both by pulling and pushing, which is practical in connection with climbing.

A bell formed hook is used especially for stripping off pine cones during climbing

Saw-blades are used to cut off entire branches

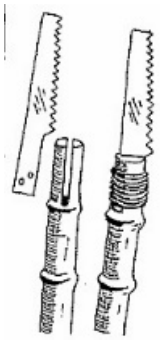






Mounting and fitting

The tool head must be firmly attached to the pole since pull and push puts a strong load on the tool part. The strongest is if the tool is welded to a short iron pipe that is fitted to the top of the pole with at least two bolts. Useable, but weaker are devices that are inserted into a slice in the pole and tied firmly with wire or string.



Summary, do's and don'ts

Do's

- Mount tool heads firmly to the handles
- Attach throwbags firmly to string or rope
- Protect sharp edges, - from people getting cut and the edge getting blunt

Don'ts:

- Don't use handles as climbing gear

Selected Readings

Schmidt L. 2007. Tropical Tree Seed. Springer. Heidelberg, Berlin.

Robbins A. 1984. Tools for Harvesting Tree Fruits. Trees. University of Copenhagen /DFSC TN13. Tools for Harvesting Tree Fruits

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Note: This DB was prepared as extension note for PATSPO (Ethiopia) 2019