

**Taro
Planting
Material**

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Illustrations adapted from “Growing Taro”, Solomon Islands Agriculture Teaching Notes.

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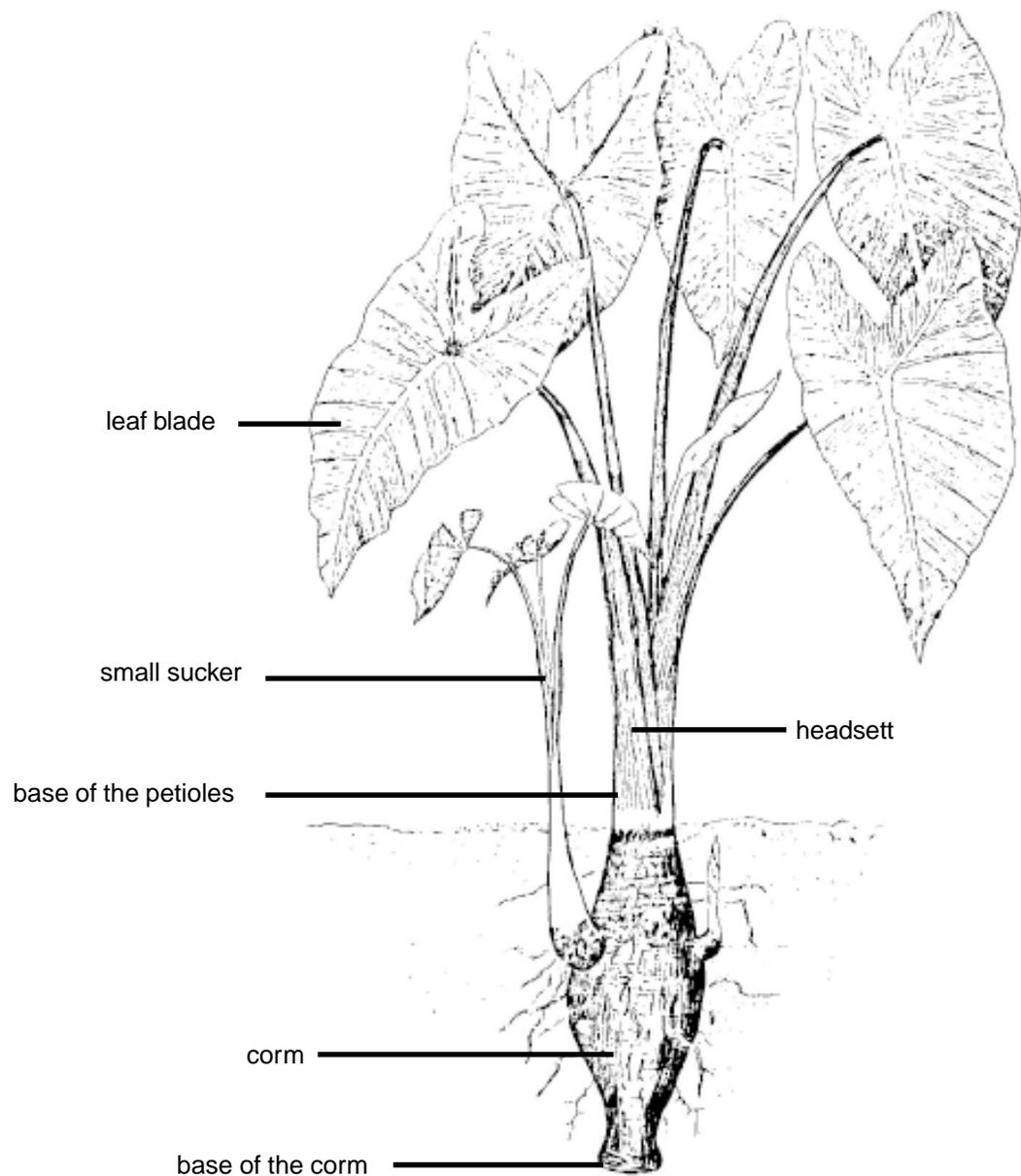
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TARO PLANTING MATERIAL

A high-yielding crop of taro (*Colocasia*) begins with good planting material.

To select good planting material, the grower must consider:

- TYPE of planting material,
- SIZE of planting material, and
- HEALTH of planting material.



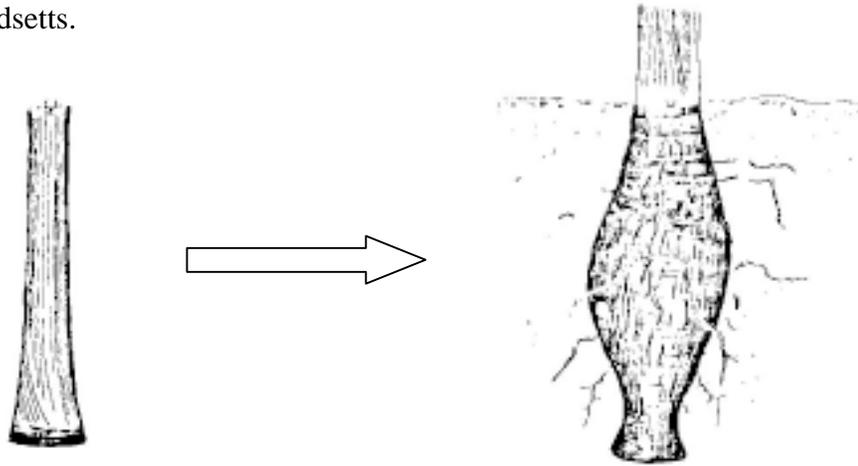
Parts of the Taro Plant

Type of Planting Material

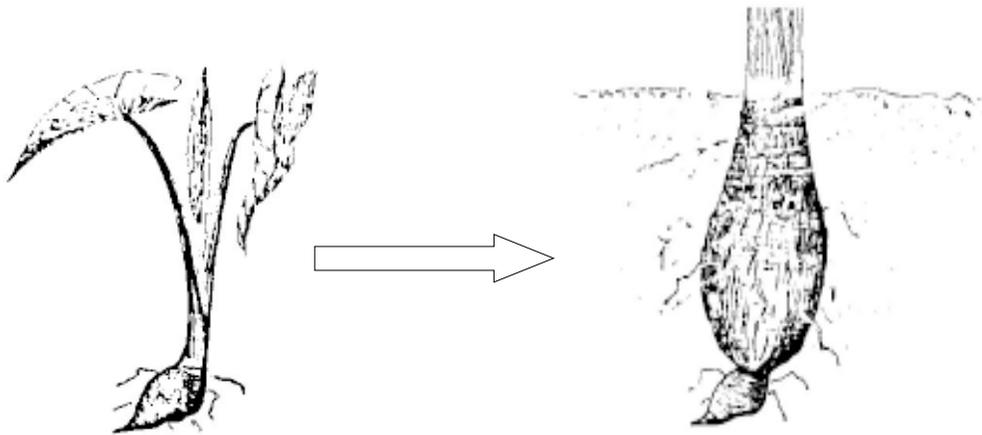
Taro is propagated vegetatively, and headsetts (sometimes called tops), or large suckers are the best planting materials. These contain the apical bud and have rapid early growth and a high rate of survival.

Are headsetts better than large suckers? Some growers prefer headsetts, and others prefer large suckers. Researchers find that one is not consistently better than the other. But small suckers generally have a lower survival rate and produce lower yields than large suckers or headsetts.

The growers' preference for headsetts or large suckers is often based on the shape of the taro corm. The type of planting material affects the shape of the base of the corm, and therefore may affect marketing. Of course, if suckers are trimmed like headsetts, they will produce the same corm shape as headsetts.



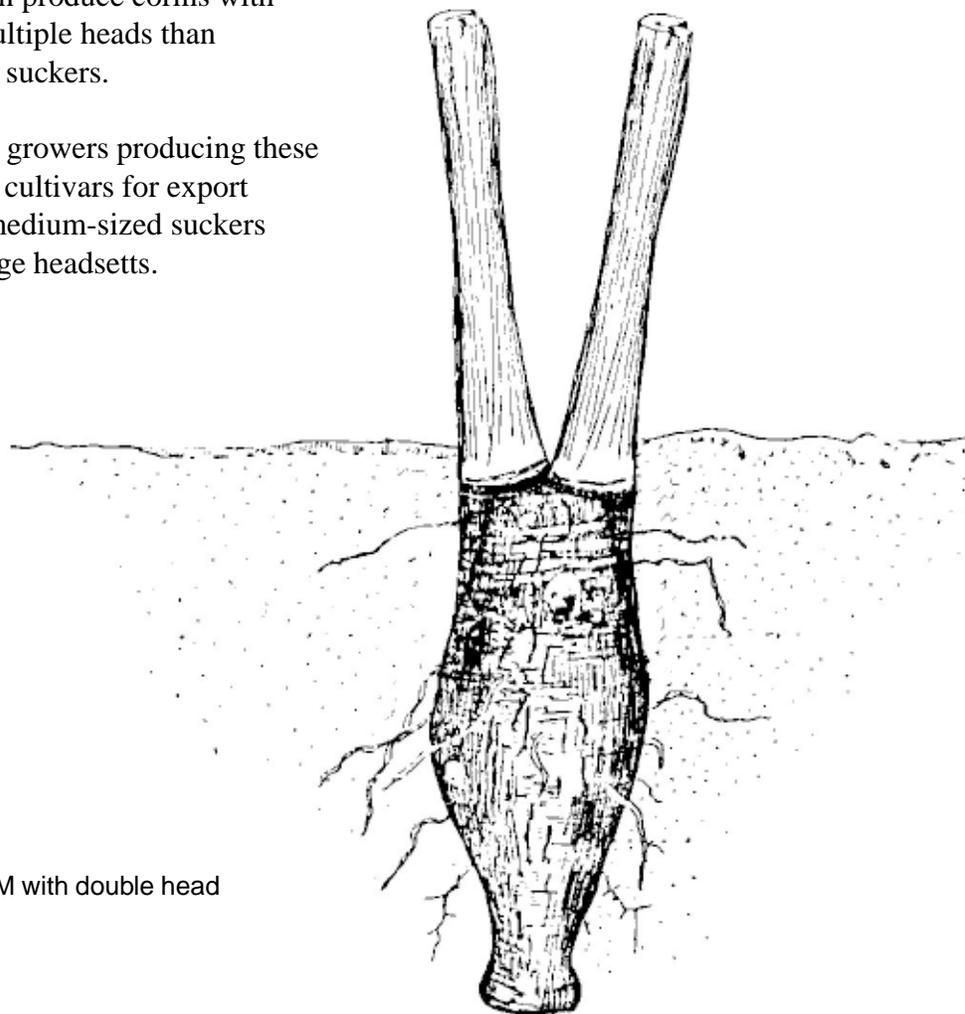
Plant a HEADSETT and you get this corm shape.



Plant an untrimmed SUCKER and you get this corm shape.

Also, the type of planting material may affect the number of heads on the corm. Some cultivars in the South Pacific region have a tendency to produce more than one head on a single corm. For example, in Tonga, cultivars *Lauila* and *Sikavi* often produce corms with double or multiple heads. Corms with double or multiple heads are acceptable for eating at home, or selling on the local market, but they are not accepted for export overseas. In susceptible cultivars, large headsets will more often produce corms with double and multiple heads than medium-sized suckers.

Therefore, growers producing these particular taro cultivars for export should plant medium-sized suckers rather than large headsets.

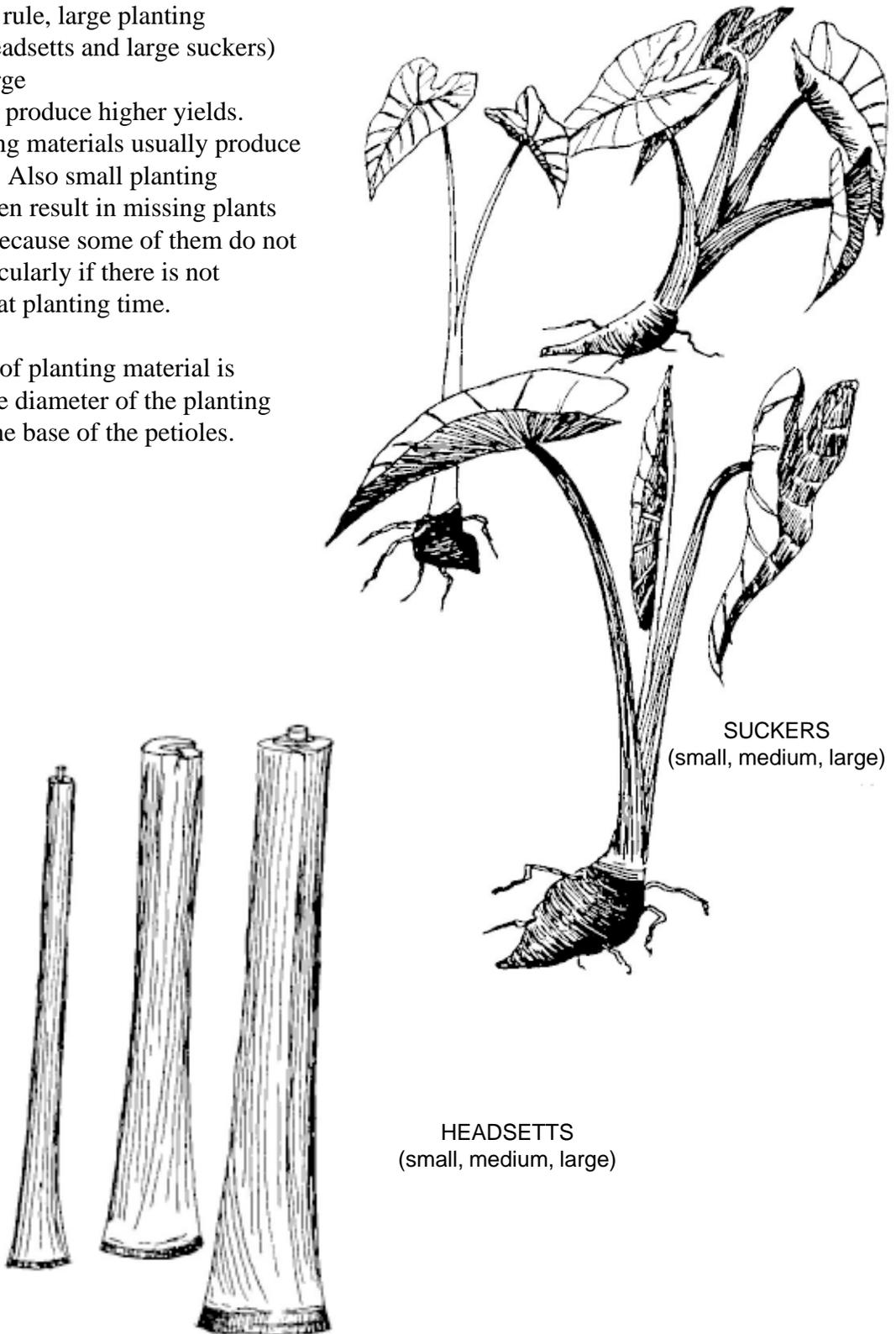


CORM with double head

Size of Planting Material

As a general rule, large planting materials (headsetts and large suckers) grow into large plants which produce higher yields. Small planting materials usually produce lower yields. Also small planting materials often result in missing plants in the field because some of them do not survive particularly if there is not enough rain at planting time.

The size of planting material is judged by the diameter of the planting material at the base of the petioles.



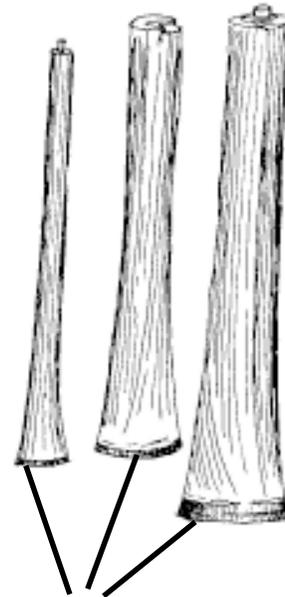
Here is an example of how the size of planting material can affect yield.

Headsett Diameter	Yield (t/ha)
>5.0 cm	22.6
2.5 - 5.0 cm	20.1
<2.5 cm	17.6

However, there is a limit to the advantage of large planting material and therefore extra large headsetts and suckers do not necessarily yield more than large ones. Here is an example.

Headsett Diameter	Yield (t/ha)
>6.5 cm	22.8
5.0 - 6.0 cm	22.9
<4.5 cm	18.2

Although extra large planting material may not give higher yields than large material, it may give better weed control because the leaves grow and shade the ground faster.



Diameter at base of the petioles

Health of Planting Material

To reduce the spread of diseases from old fields to new fields:

- Take planting material from healthy plants.
- Inspect and clean up planting material.
- Treat with chemicals.

NOTE about treating with chemicals: Some diseases can be controlled by treating planting materials with chemical pesticides. But before you recommend chemicals to a grower, remember the following:

1. Given the cost of the chemical, is it economical to treat with chemicals?
2. Generally only commercial growers have the cash to purchase chemicals. Therefore, it is not appropriate to recommend chemicals to subsistence farmers.
3. Remember that you must handle these chemicals carefully. Wear water-proof gloves when you are mixing the chemicals and dipping or soaking the planting materials and whenever you are handling the treated planting materials. Throw away the extra chemical in a safe place.
4. Follow all label directions.

Planting material should be taken only from healthy plants. This means you should not take headsets or suckers from plants which show obvious symptoms of dasheen mosaic virus (DMV). Check for DMV in the field before you cut off the leaves.

If possible, planting materials should not be taken from plants which have corm rots. These corm rots are often caused by the fungus *Pythium*.

If you must take planting material from a field which has many taros rotted by *Pythium* or other diseases, you should carefully inspect and prepare each headset and sucker before you use it for planting.

- Cut off all signs of corm rot.
- Cut off all roots and dead leaves.
- Pull off the outer petiole bases since these may carry soil containing the disease.

It is best to make the final inspection after storing the planting material for 2 or more days so that it is easier to see the rots. Also, during the 2 or more days of storing, cut surfaces on the planting material will dry out and this helps to control many diseases. In the Cook Islands do not store planting material in the ditches of swamp water surrounding raised taro beds.

If commercial growers are taking suckers and headsets from a field which is badly infected with corm rots, they can treat this planting material with fungicide. First inspect and clean the headsets and suckers. Then do one of the following:

1. Dip them into a solution of Captan (40g/litre of water). (Dip means to put into the solution and take out quickly; not soak.), or
2. Soak suckers and headsets for 1/2 to 1 hour in a solution of Ridomil (1.0g/litre water or Aliette (2.5g/litre water).

The leaf blight *Phytophthora* occurs in Papua New Guinea, Solomon Islands, Hawaii and some islands of Micronesia. If you are taking planting materials from a field infected with *Phytophthora* leaf spot, cut off all leaf blades since these leaf blades may carry the disease. You should do this even on small suckers which are traditionally planted with leaf blades. Storing the planting material a few days to dry out the cut surfaces may also help to reduce the spread of this disease.