

Care of Plants

- Water the newly grafted seedling.
- Remove all the lateral growth below the graft union.
- Remove the PE bag after a new shoot has appeared.
- Unwind the plastic strips when the graft union is successful (as soon as new shoots come out of the scion).
- Transfer the grafted seedling in a bigger plastic bag whenever necessary.

Selected Fruit Species Propagated by Grafting

Crop	Scientific Name
Alupag	<i>Euphoria didyma</i>
Anonas	<i>Annona reticulata</i>
Atemoya	<i>Annona cherimoya</i> x <i>A. squamosa</i>
Atis	<i>Annona squamosa</i>
Avocado	<i>Persea americana</i>
Balimbing	<i>Averrhoa carambola</i>
Caimito	<i>Chrysophyllum cainito</i>
Calamansi	x <i>Citrusfortunela microcarpa</i>
Cashew	<i>Anacardium occidentale</i>
Chico	<i>Manilkara zapota</i>
Duhat	<i>Syzygium cumini</i>
Durian	<i>Durio zibethinus</i>
Guava	<i>Psidium guajava</i>
Guayabano	<i>Annona muricata</i>
Jackfruit	<i>Artocarpus heterophyllus</i>
Lanzones	<i>Lansium domesticum</i>
Mango	<i>Mangifera indica</i>
Pili	<i>Canarium ovatum</i>
Pumelo	<i>Citrus grandis</i>
Rambutan	<i>Nephelium lappaceum</i>
Tamarind	<i>Tamarindus indica</i>

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Cover Photo: Lavernee S. Gueco

References:

- Coronel, R.E. Propagating fruit crops in the home garden. College, Laguna, Philippines: UPLB-IPB, 1995.
- Bautista, O.K. Introduction to tropical horticulture (2nd edition). College, Laguna, Philippines: SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEAMEO SEARCA) and University of the Philippines Los Baños, 1994.

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Plant Propagation Techniques GRAFTING

Information Bulletin No. 304/2012

Grafting is an asexual propagation technique.

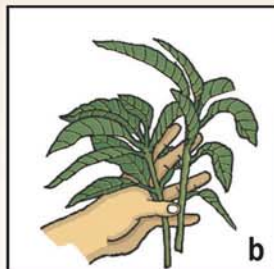
- Involves the union of two plant parts (scion and rootstock) and continue their growth as one plant. The cambium layer forms the new xylem and phloem resulting in permanent union of the scion and rootstock.
- Used to perpetuate clones that are hard to propagate using cuttings, layerage, and other asexual methods.

Types of Grafting

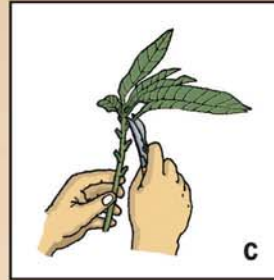
- **Cleft grafting** – most popular grafting method in the Philippines. It is also called wedge grafting wherein a scion is inserted into a cleft of the rootstock.
- **Side grafting** – the base of the scion is inserted at the side of the rootstock. It is usually used when the rootstock diameter is bigger than the scion.
- **Splice grafting** – the rootstock and scion, preferably of equal size, are cut diagonally and smoothly and fitted together.
- **Bark grafting** – depending on the size of the trunk, one or more scions can be inserted in one rootstock. This is sometimes used to rejuvenate old trees and it is possible to graft more than one variety on a single stock.

Steps in Cleft Grafting

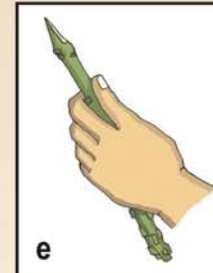
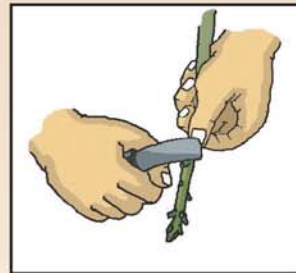
1. Choose an appropriate rootstock (a) and scion (b). The scion and rootstock must be compatible. As a general rule, closely related plants (e.g., varieties within same species) are graft compatible. The scion should come from a tree with desired traits (e.g., good quality, high yield) while the rootstock should possess good root characteristics (e.g., resistance to soil-borne diseases, good anchorage).



2. Remove the leaves of the scion without injuring the buds (c) and cut the rootstock to a height where there is active growth (d).



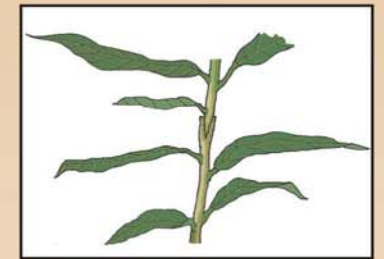
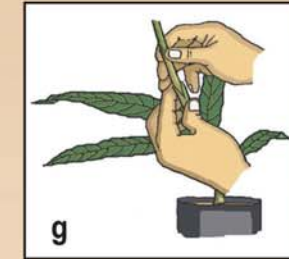
3. Shape the base of the scion to a short wedge (e). Use a sharp knife when performing this task to ensure a good fit. Gaps will be created between the stock and the scion when the cut is rough, and the union will either take time or not occur at all.



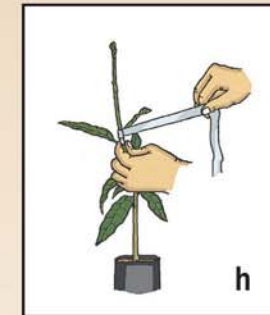
4. Cut the rootstock vertically, about 2–3 cm long (f).



5. Insert the wedge of the scion onto the cleft of the rootstock (g).



6. Bind the graft union and the entire scion with a strip of polyethylene (PE) plastic (h). Make sure to tie them securely to prevent dislocation at the point of union. To test this, hold the scion and lift the whole seedling without affecting the union.



7. Cover with a small PE bag (i). This will prevent water from entering the graft union.

