PLUMERIA PROPAGATION

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P. rubra

Plumeria species
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Plumeria – popular lei flower

Donald Angus, benefactor

Kamehameha statue at Hawi

Jim Little, author, nurseryman
Plumeria propagation by seed

Seeds are borne in paired fruits called follicles

Open follicle

Seed planted vertically with the wing sticking out. Vermiculite-perlite medium. Germ. 8-10 days
Plumeria seeds of different sizes, wing shapes, and colors when mature.
L: Seedlings ready to transplant
R: Seedlings in tray pots
Rooting of cuttings

Rooting hormones not necessary, but can improve speed of rooting. A hormone such as Dip N Grow at a dilution of 1:5 (2500 ppm) is adequate. Rooting hormones may be necessary for species that are more difficult to root than *Plumeria rubra*. 
Girdle or notch
3 to 4 weeks in advance of taking cutting

A notch cut into a branch stimulates callus production and better rooting on difficult-to-root cultivars.
Direct stick in the ground

With bases callused to minimize rot, terminals (single or branched) and stem pieces of considerable size can be direct-rooted in the ground.
Batch rooting or 1 cutting/pot
Bag rooting
Other variants for cuttings

- Fiber pad
- Water
- Oasis block
- Sand
Grafting

Inverted wedge  Side wedge  Wedge graft
Multiple splice grafts on plumeria

PVC pipe splint to support graft

Graft unions
Topworking onto new shoots on old trees is practiced to convert a tree to mixed colors or to convert it to a new and more desirable cultivar.

This is a common practice in Bali & Thailand nurseries.
Single bud top graft

- **Single bud**
- **Wedge cut**
- **Bud fitted**
- **Bud tied down**
**Single bud graft at 8 weeks**

This system has been widely used in Thailand where a 30 cm cutting of a valuable variety may yield a dozen or more plants.
Patch bud technique
Air-layering, while not practical on a large scale, is a useful technique for the collector.
Plumeria in tissue culture

Photos courtesy of W. Sean Miller
These Dwarf Pink Singapore were all grown from tissue culture.
In conclusion

- Plumeria is easy to propagate — excepting perhaps some of the species which root with difficulty and the seeds are short-lived.
- Cutting propagation is most common.
- Grafting practiced by some nurseries for rapid multiplication of new cultivars.
- Air layers are a fairly sure means but less commonly used.
- Seed yields a diverse population.
- Tissue culture not widely used because of contamination.