Pruning,Callusing and Rooting Plumeria

Southern California Plumeria Society

Jeff Sharp April 2023

Why Do We Prune Plumeria?
Tipping and Thinning, and Pests

We start by removing the 3 D's….
Dead, Diseased, Damaged branches.

By removing elongated and low branches and then by opening the canopy, we create a chimney effect.

White flies do not like air flow.

Heading cuts: are carefully placed cuts intended to encourage new side growth and discourage the main stem from growing longer. Make heading cuts in pruning about one-fourth inch above a branch junction. The branch that is left should face the direction in which you want new growth.

Tipping: is a poor maintenance practice used to control the size of tree crowns; involves the cutting of branches at right angles leaving long stubs.

Thinning: is a delicate process that removes small diameter (usually 1-3 inch) branches. Remove those growing parallel and close to nearby branches or those competing for the same space in the canopy. Appropriately thinned trees may not look like they were pruned.

Releadering: cuts are used to reduce the height and width of trees and plants. Releadering also slows the growth of a plant, which helps to keep a plant small.

Why we thin and releader trees

1/3 RULE "your pruning budget

"If you remove more than 30% of the tree's canopy you can stimulate rampant new growth.

*The tree will go into ***SURVIVAL MODE*** and focus its energy on new growth and leaves to increase photosynthesis.

This can negatively impact flower growth

EXAMPLES OF RAPID GROWTH AFTER TOPPING A TREE

Auxins

(plural of auxin) are *plant hormones* (or plant-growth regulators) with some *morphogen*-like characteristics. Auxins play a role in coordination of many growth and behavioral processes in plant life cycles and are essential for plant body development.

Root growth and development

Auxins promote root initiation.
Auxin induces both growth of pre-existing roots and root branching (lateral root initiation) and is adventitious to root formation.

As more native auxin is transported down the stem to the roots, the overall development of the roots is stimulated. If the source of auxin is removed, such as by trimming the tips of stems, the roots are less stimulated, and growth of stem is supported instead.

A callused cutting made as close to 90 degrees to the branch and dipped into sulfur/potato starch mix. This one is read root.

Organic Sulfur Powder-10Lb Bag

Price: $19.19 @ Amazon

- Very fine ground sulfur powder
- 99% pure sulfur (feed grade)
- NOT FOR HUMAN CONSUMPTION
- Organic Compliant

Sulfur

Sulfur is as necessary as phosphorus and is considered an essential mineral. What does sulfur do for plants?

Sulfur in plants helps form important enzymes and assists in the formation of plant proteins. It is needed in very low amounts, but deficiencies can cause serious plant health problems and loss of vitality.

Sulfur, used as a fungicide in the garden, is dusted over the freshly cut edges to prevent fungal infections from developing in the succulent cuttings vulnerable, moist interior.

Avoid breathing the sulfur powder and thoroughly wash your hands after dusting the cuttings.

Potato starch

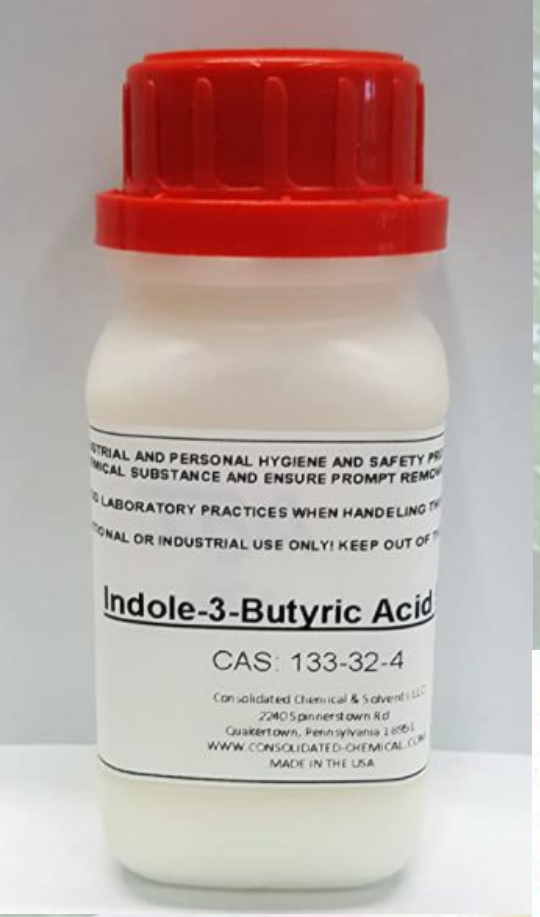
is starch extracted from potatoes. The cells of the root tubers of the potato plant contain leucoplasts (starch grains).
To extract the starch, the potatoes are crushed, and the starch grains are released from the destroyed cells.
The starch is then washed out and dried to powder.
Potato starch is pure carbs.

Rooting Hormones

In horticulture, auxins, especially NAA and IBA, are commonly applied to stimulate root initiation when rooting cuttings of plants. High concentrations of auxin inhibit root elongation and instead enhance adventitious root formation.

Indole-3-butyric acid (1*H*-indole-3-butanoic acid, IBA)

IBA is a white to light-yellow crystalline solid. IBA is a plant hormone in the auxin family and is an ingredient in many commercial horticultural plant rooting products.



Indole Butyric Acid Water Soluble IBA-K >98% Pure indole-3-butyric acid 25 Grams

Brand: Power Grown

41 ratings | 14 answered questions

$19.96

Eligible for amazonsmile donation.

- 99% ASSAY

GardenTech Rootboost Rooting Hormone

Safety Data Sheet

Date of issue: 06/23/2020 Version: 1.0

3.2. Mixtures

Name	Product identifier	%
Indole-3-butyric Acid	(CAS-No.) 133-32-4	0.1
Talc	(CAS-No.) 14807-96-6	95 – 99
Non-hazardous and/or does not meet criteria for classification	(CAS-No.) N/A	Balance

.056 grams of IBA is the active ingredient in a 56-gram bottle, the rest of the contents is talc

Root nubs forming and getting ready to push out into the soil

This was a storage experiment based on Bud Guillot's first cutting, which was shipped from the Philippines encased in wax. This cutting was dipped into sulfur then melted beeswax.

This was a fresh cutting dipped in sulfur powder, then bagged so the excess powder wouldn't fall onto the car's upholstery. It was transport to San Jose for the winter and left in a greenhouse. This is what is looked like coming out of the greenhouse.

BAG ROOTING PLUMERIA CUTTINGS

- What is needed
- Coir
- 4x6 bags Plymor Flat 2 mil pack of 100 $9.82 @ Amazon
- Tape Amazon Commercial Vinyl Electrical Tape, 3/4 in x 60 ft Yellow, 10-Pack $15.14

Preparing the Coir

EASY TO STORE & EXPAND: Each compact coconut coir brick expands into 8 quarts of starting mix, providing 16 quarts total. Just add water to expand! Dehydrated bricks save space until planting. Once expanded, coconut coir provides a quality growing medium for all types of plants - indoor plants, house plants, outdoor plants, and more!

Coco coir has excellent moisture retention and better air circulation than peat. This eco-friendly, starting mix combines well with other potting soil and compost for container plants & raised beds.

Palm, Cactus & Citrus All Purpose Indoor & Outdoor soil Mix

Use for your palms, cactus, citrus, plumeria, succulents, and tropical plants.

- Ideal for indoor or outdoor use
- Can be used in containers & in-ground
- Absorbs water quickly & provides excellent drainage
- Ready to use – no mixing 100% satisfaction guaranteed
- **I always add extra perlite to my soil mix**

Roots

- The coir only needs to be damp, if it is too wet the cutting will rot.
- Fill the bag ¾ full of coir then squeeze out the air and place the cutting halfway into the coir. Seal the bag by taping it to the stalk and work your way down the bag until the bag is firm.
- Place the cutting in a warm area to force rooting.

Can I reuse my old soil?

Yes..

By using soil amendments, you can reuse your old soil.

The next few slides will point out some amendments to add to your old soil.

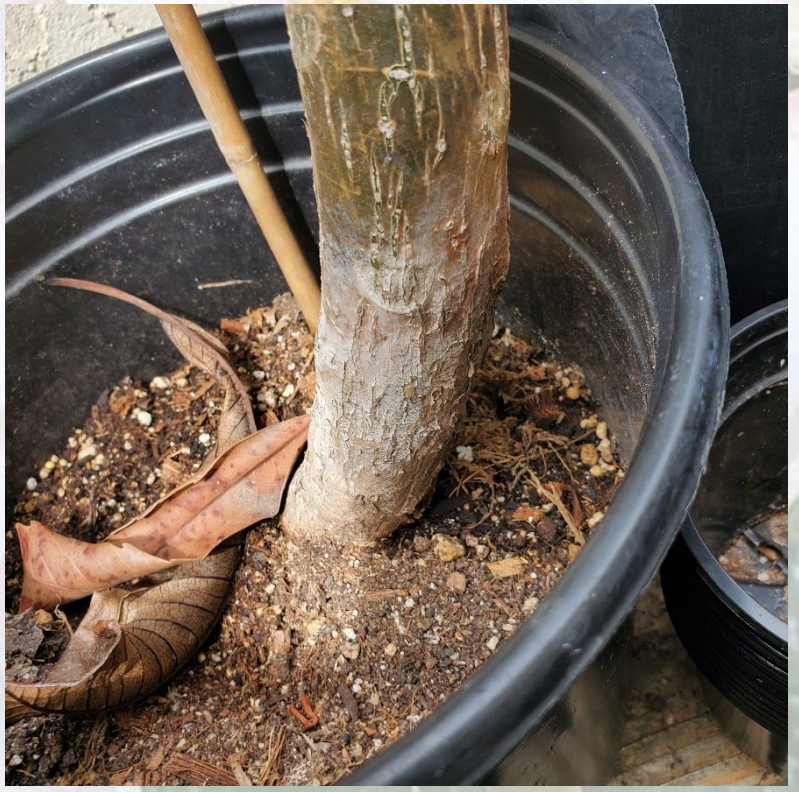
Alfalfa meal or pellets

Azomite

Fish/Kelp fertilizer

Why isn’t my plumeria growing?

It could be planted too deep!



AMENDMENTS

- Alfalfa act as a slow-release fertilizer and an excellent source of nitrogen. Alfalfa also contains trace minerals and triacontanol, a naturally occurring growth promoter!
- Alfalfa can be used several different ways in gardening; during the growing season, to slowly release added nutrients to your garden all season long, it can be used at the end of the season for amending your soil, or it can be added to your compost pile, acting as a stimulator.

AZOMITE

- **Micronized**
- Micronized is a powder with flour-like consistency, where 90% of the particles will pass through a 200-mesh screen. Micronized is ideal for:
- Adding to the soil or water in hydroponic systems
- Blending into soil mixes
- Formulations of agricultural and horticultural nutrient products
- Irrigation system injection with agitation
- Greenhouse potting soil and fertilizer
- Home gardens
- Potted plants

Why AZOMITE®?

- Re-mineralizes soil for optimum growth
- Virtually odorless
- Improves root systems, yields and quality

- Natural occurring mineral deposit
- For all soil types
- **Potting Soil**: Add 7 -10 lbs per cubic yard of potting soil, plus add low rates of AZOMITE® Micronized to the irrigation water, assuring there is adequate agitation, screen and nozzle sizes, when possible, on a weekly basis.
- **Compost**: Add 50-100 lbs per ton of compost preferably at the beginning of the compost cycle.

Using Fish Emulsion

- Fish emulsion, or fish fertilizer for plants, is a fast-acting, organic liquid fertilizer made from the byproducts of the fishing industry. It is rich in nitrogen, phosphorus, and potassium, plus trace elements such as calcium, magnesium, sulfur, chlorine, and sodium.
- It is made from fish parts that would otherwise be wasted. It contains plenty of nutrients for quick absorption by plants. Fish fertilizer for plants is a mild, all-purpose feeding option that can be used at any time. It may be used as a soil drench, foliar spray, in the form of fish meal, or added to the compost pile.
- Fish fertilizer for plants is a concentrated product that is diluted with water prior to application. Combine ½ ounce of fish emulsion with one gallon of water, then simply water the plants with the mixture. To get the most benefit from using fish fertilizer on your plants, apply the mixture twice per week.

Benefits of Liquid Seaweed Fertilizer

- Liquid seaweed solution promotes additional budding if applied as the plants are beginning to bud.
- The extract lengthens the life of cut flowers if they are sprayed with it a day or two before cutting.
- It can also be used as a rooting solution. Place cuttings in a solution of liquid seaweed and water until roots develop, then plant. When planting seeds or transplanting, water with the solution.
- Seaweed extract also boosts crop yields, improves resistance of plants to frost and disease, increases uptake of inorganic constituents from the soil, bolsters resistance to stress conditions.
- It promotes vigorous growth and helps deter pests and diseases on fruit, flowers, vegetables, lawns.

Benefits of Liquid Seaweed Fertilizer

- Seaweed fertilizers are especially useful in organic gardening. They contain almost every micro-nutrient in a fully chelated (immediately available) form. The algae is also full of carbohydrates, which plants use as a building block. Numerous beneficial microorganisms also use carbohydrates as a food source.
- Liquid seaweed fertilizers (especially the alginates in the seaweed) act as soil conditioners. The alginates react with metals in the soil and form long, cross-linked polymers in the soil. These polymers improve the crumbling in the soil and swell up when they get wet. They also retain moisture for a long time.