



HIBISCUS INTERNATIONAL



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NATIVE HAWAIIAN HIBISCUS

Jill Coryell



Oahu, Hawaii



Jill Coryell lives in Waialua on the beautiful north shore of Oahu, Hawaii where she runs the Hibiscus Lady Nursery specialising in, of course, Hibiscus. Jill is well known in the international world of Hibiscus and has an in depth knowledge of the Hawaiian species.

H. clayi / ©David Eickhoff



H. kokio / ©Bill Schmidt



Recent University of Hawai'i genetic DNA analysis of the various endemic (native) Hawaiian hibiscus has determined that there are four unique species of Hawaiian reds: *H. clayi*, *H. kahilii*, *H. kokio*, and *H. saintjohnianus*. Hawaiians refer to all of these as Koki'o 'ula'ula.

H. kahilii / ©Rick Barboza



H. saintjohnianus / ©David Eickhoff



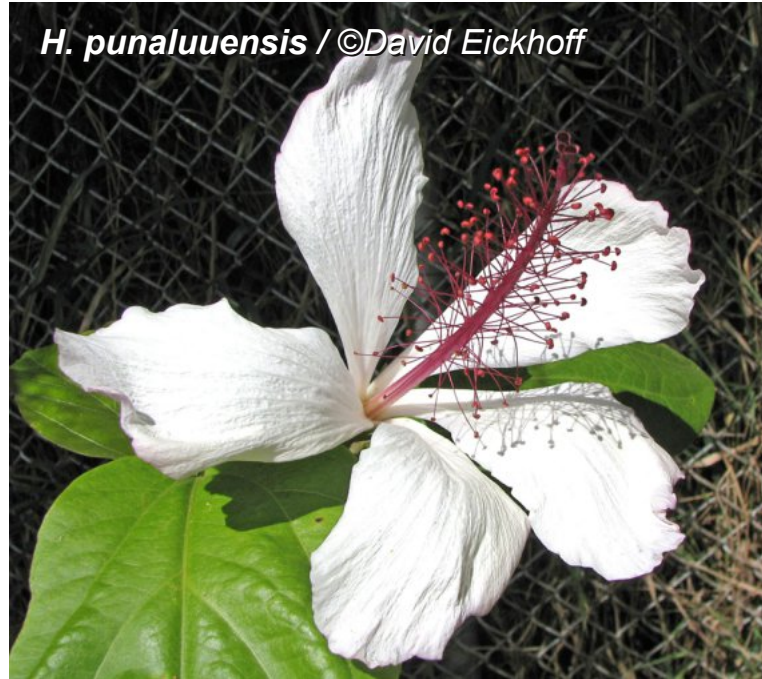
H. arnottianus / ©Hawaii Horticulture



H. immaculatus / ©kahaokaaina.org



H. punaluensis / ©David Eickhoff



H. waimeae / ©Forest and Kim Starr



H. hanneriae / ©David Eickhoff



The various native white hibiscus are now recognized to be: *H. arnottianus*, *H. immaculatus*, *Hibiscus waimeae*, *H. punaluensis*, and *H. hanneriae*.

Hawaiians call all of these Koki'o ke'oke'o.

Many think that these have all evolved from a single seed brought by a bird.



H. brackenridgei / ©KarIM

We have another endemic species of Hibiscus: *H. brackenridgei*, known in Hawaiian as Ma'o Hau Hele. It can sometimes become a small tree growing up to 30 feet tall. The fuzzy leaves have toothed edges, 3, 5, or 7 lobes, and are up to 6 inches long/wide.

Most of these Hibiscus have become quite rare in the wild, and several are classified as endangered. It is illegal to ship endangered plants out of the state of Hawai'i.



Hibiscus Lady Nursery

Click here to visit Jill Coryell's website:

www.hibiscuslady.com



Left: a beautiful braided Hibiscus by Eliseo Mendoza.

You can learn how to braid your own Hibiscus by following this short video made by My Too Sprouts Farms in Homestead Florida.

Click on this link to go straight to YouTube.



POLLINATING HIBISCUS WITH A LONG STIGMA

Ethan Nielsen



One of Florida's huge alligators visits a golf course.



Ethan Nielsen lives in Haines City, central Florida. Early settlers to this area planted citrus groves, and citrus growing and processing became the main industry of the city. Haines City is located in a humid subtropical zone although it can be hot and dry here too. The average temperature range is 60.4°F (15.8°C) to 90.5°F (32.5°C). One of the challenges of growing Hibiscus (or anything for that matter) here are the tropical storms and occasional hurricanes which sweep through. Average yearly rainfall is 50.94 inches with most of it falling in the summer months.

A conversation on Facebook about pollination

Has anyone had success getting seed to set on *H. schizopetalus*? I read a rumor somewhere



that all *H. schizopetalus* in cultivation (at least in the U.S.) are the same clone. I've been trying to get mine to set seed using various things, including *H. schizopetalus* hybrids like *H. 'Hawaiian Salmon'* but have been unsuccessful in both directions. The best I get is that *H. schizopetalus* will form a pod that develops for two weeks then aborts.

Wendy Williams: One of the problems with *H. schizopetalus* is the very long stigma. In the past I have tried to pollinate difficult hibiscus by making a slit in the stigma and introducing pollen there. It is, however, hit and miss whether the pollen is compatible and the ovary receptive. I haven't had any luck so far. The resulting pods sometimes start to develop but then drop off.

Ethan Nielsen: I try to pollinate them before they open all the way. The day before they open they usually start pushing the stigma out of the bud, and that's when I put some pollen on it. Still, they fall off after two weeks if they start to develop.

Todd Alvis: I've had the same problem with the long stigma as Wendy. This applies to Snow Queen and Sprinkled Rain. I've had some form seed but it is a very small percentage.

Ethan Nielsen: The tips of the stigma are starting to push out, it's just hard to see. The yellow dots are some pollen from *H. cooperi*, another *H. schizopetalus* hybrid. (see photo right).

Lex Allan James Thomson: I am informed by Brian Kerr that the late Geoff Harvey was able to produce *schizopetalus* seed - possibly nutrition is involved with greater seed set for *schizopetalus* on red volcanic soils / kranozems. Re species and hybrids - *archeri* and *albo lacinatus* are F1 hybrids with *schizopetalus* as male parent. In the case of *albo lacinatus* the female parent is *H. arnottianus*. It is unclear what the



female parent is for CV *archeri*, as the lecotyped *H. rosa-sinensis* (probably the same entity as 'landersii' or *Pride of Hankins*') is itself a hybrid. *H. cooperi* is a native South Pacific Island species and I have recently submitted a paper reinstating it as a species. I attach an early image of the variegated foliage form of *H. cooperi* (see left). It's a good breeding idea to double the ploidy of *H. schizopetalus* seeds and I have discussed this with Brian Kerr who has similar plans/ideas.

Ethan Nielsen: Very nice, my *H. cooperi* doesn't look like that, I think it must be *archerii* that I have.

Brian Kerr: Arthur Schick in America has gotten seed from *schizopetalus* and grown the seedling to blooming stage. I don't have a pic available on this computer, but Lex Allan James Thomson could have.



Hibiscus Cooperii HORT. ANCL.
Nouvelle Hollande merid. (Serra chaude ou tempère)
The variegated form of *H cooperi*

Lex Allan James Thomson and I have shared much information about schizopetalus and types that appear to have schizopetalus as a parent / grandparent as well as pictures of seedlings where schizopetalus was the father involving crosses with species and F2 from two different species. I look forward to a different coloured Schizopetalus.



I have just found Arthur's seedling from schizopetalus in an email (see *photo left*). It was a selfed seedling which he assumed as he found the pod growing on a 'wild' schizopetalus growing in the bush (from memory).

Ethan Nielsen: That's great! I knew it was possible, and I would also love to see schizopetalus in different colors.

I had to resort to ovule rescue, but I have a seed germinating from a selfed H. schizopetalus! (see *photo below*). This is was the best I could get, little white seeds after two weeks of development.

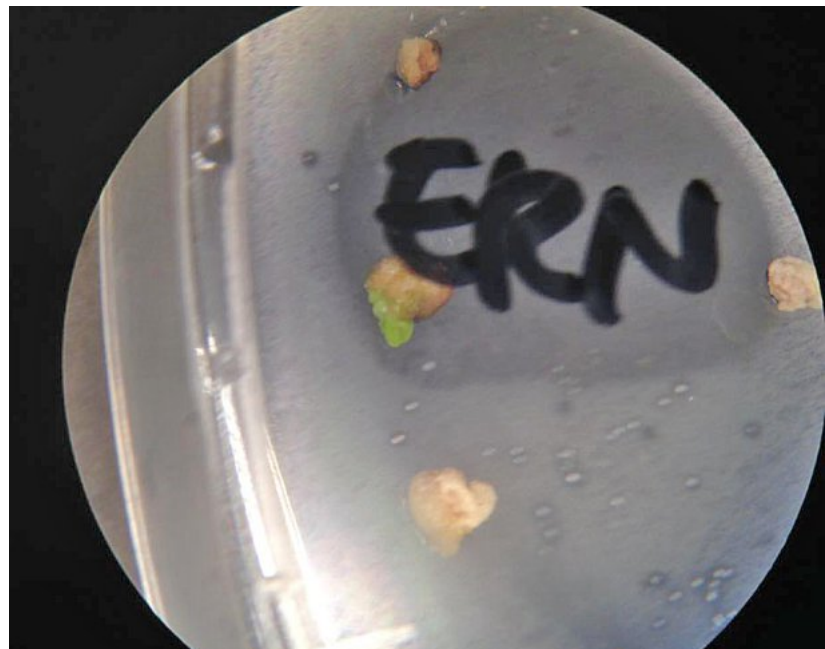
This is a view through a microscope into a petri dish (which also has my initials written on it).

Arthur Schick: Bummer that you know it is selfed because as a species, it will be nearly, if not identical to it's parents.

Ethan Nielsen: It's not a bummer - I can still try to convert it to tetraploid, plus it's a step in the right direction. Also, it's not the only one I've been working on see this flickr link:

[Hibiscus Ovule Rescue](#)

(Click on the above to go to flickr.)



I have decided to do some gardening today,
I'm going to plant myself on the couch.



IHS member William Suhosky was very impressed when he ordered seeds from TezulaPlants.com and they arrived so beautifully packaged. TezulaPlants are based in Miami, Florida and the logo below will take you directly to their website where they offer seeds of some very nice Moorea crosses by Charles Atiu.



UK member Peter Jenkins posted this photo of his neatly labelled seedlings at 13 weeks old.

Placing them in gravel trays is an excellent idea for controlling drainage as the delicate young plant is never left standing in water.

HIBISCUS IN THE SNOW

Valeria Eremita



Riposto, Sicily with views of Mount Etna.



Valeria lives in Mascali, Sicily which enjoys stunning views of the famous Mount Etna which is, of course, famous as an active volcano. Indeed, the town of Mascali was entirely rebuilt after its almost complete destruction by lava from Etna in 1928. It is worth mentioning here that nearby Riposto is one of the most historic and picturesque villages of the Ionian coast.



The summers here are long and hot, indeed the hottest in the whole of Italy with record highs over 45°C (113°F).

Winters are mild and wet. Most rain falls from October to March, leaving late spring and summer virtually dry. Some years suffer drought for three to four months. Average rainfall is around 500 mm per year, although the amount can vary.

Occasionally on winter nights low temperatures can dip under 0°C (32°F), but snow, due to the presence of Etna that protects the area from northerly winds, is very rare.

On 6th January 2017 it was, therefore, rather a shock for Valeria to look out over her garden and see her beautiful Hibiscus in colourful bloom, surrounded by snow.

Fortunately, the temperature dip was very brief and, apart from cold 'burn' on the leaves and buds, the Hibiscus survived and recovered.

In the IHS database there are 1,835 CV's in the colour group 'Pink' and I am afraid Valeria's beauty remains unidentified.



MY FIRST EXPERIENCE OF GRAFTING

Jonathan Retamala



Ventura, California



Jonathan lives in Ventura, California which is part of the Los Angeles metropolitan area. Ventura enjoys a Mediterranean climate with the sea breeze off the Pacific Ocean moderating temperatures. The occasional strong and dry Santa Ana winds which blow from inland can increase temperatures dramatically. These winds are infamous for fanning wildfires and are sometimes called the 'devil winds'. Record highs can reach 103°F (39°C) and lows 28°F (-2°C). Rainfall is heaviest in Jan/Feb/March.



After much research all the equipment that might be needed, including a sharp blade, secateurs and scissors, was gathered together on a clean surface.

The 'Tie it Clear' tape (see right) was not grafting tape but would suffice. Masking tape helped hold it in place.



My set up. In the end, the 'Tree Seal' aerosol was not used. Before starting work, the tools were disinfected by wiping them with a McKesson 'Alcohol Prep Pad' (available on Amazon USA). Other similar cleaning products may be available elsewhere by doing a search for 'alcohol wipes'.



Above: Root stocks comprised of *Albo Lacinatus* and *Pride of Hankins* obtained from Adil Demirboga.



Cindy's Heart

Hybridized by Charles Black



Right: Thirteen scions (cuttings/wood) of the CV 'Cindy's Heart', also from Adil Demirboga.



The first graft, making sure that the cut surfaces on the scion matches the cut slot made into the root stock.



A lateral graft is added to the same root stock.



The two grafts have been snugly wrapped with tape to hold them in place and now wax is applied.



More wax is being applied. This will seal the grafts while they heal.



Above: Mission Accomplished! All the grafts have been done and the root stocks neatly potted up. I had a battle with the blade and my thumb lost (clean slice).

The plants should then be watered as normal, later watering only when the soil looks/feels dry (suggested by Jim Lewis and William Suhosky).

According to Darren Eminian and Charles Black, it is OK to allow the leaves on the root stock to remain as they help sustain the plant while the grafts heal. You can later remove the original leaves from the root stock which prevents it from growing and blooming.

Left: The finished grafts were covered with a one gallon zip lock bag (a dome/greenhouse would suffice). Depending on your climate, a heating pad may be needed to keep the temperature constant.

Adil Demirboga suggests that you must keep the tape & wax in place for roughly four or more weeks to allow time to completely heal.

These grafts will be placed under a grow light for roughly 8-10hrs per day for the first four weeks.



31st MARCH - UPDATE ON GRAFTS



Six out of ten grafted 'Cindy's Heart' have been successful. The other four showed mold build up after I checked under the wrapping.

Today marks four weeks since they were grafted on 3/3/17. I will now remove their plastic covers and hope to see further growth!

Jonathan Retamala

The Weird and the Wonderful

THE OLDEST PLANT IN THE WORLD



PNAS

The oldest plant ever to be regenerated has been grown from 32,000-year-old seeds.

This article has nothing to do with Hibiscus, but it is an astonishing news item from the world of botany which captures the imagination.

The plant shown here is the most ancient, viable, multi-cellular, living organism on Earth.

Digging deep below the permafrost, a Russian team discovered a seed cache which had been stored in the burrow of an Ice Age squirrel near the banks of the Kolyma River. Back in the lab, radiocarbon dating indicated that the seeds were 32,000 years old.

The seeds, which were encased in ice, were found 124 feet (38 meters) below the permafrost and were surrounded by layers which included mammoth, bison, and woolly rhinoceros bones.

Powerful microscopes showed the seeds were the fruits of *Silene stenophylla* - a small herbaceous plant that displays petite white flowers when in bloom - and which still grows in the region today.

Astonishingly, some of the immature seeds retained viable plant material. Using clonal 'micropropagation' techniques, fertile *Silene* plants were regenerated from the placental tissues and transplanted into pots in the laboratory.

A year later the 32,000-year-old plants blossomed, bore fruit and set seed. Interestingly, there are subtle differences when compared to the current *Silene stenophyllas*.

A CELEBRATION OF BEAUTY

A selection of fabulous photos shared by members of the
International Hibiscus Society



MOOREA DREAM OF AN ANGEL

(Moorea Ninamu x Moorea Silver Storm)

Hybridized by Charles Atiu

Photographed by Tatyana Sokolova



BOB CARRAN

(Dark Continent x Eye of the Storm)
Hybridized by Pushpa Suresh
Photo by Monika KS

© Monika KS

**MOOREA
CONSTANTINO
GARCIA**



(Moorea Pacific Star x Moorea Cuivre Star)
Hybridized by Charles Atiu
Photo by Ursula Lengdobler



**TAIWAN SILVER
FEATHER**
[Not Registered]

Parentage unknown
Hybridized and photographed
by Linda Lee



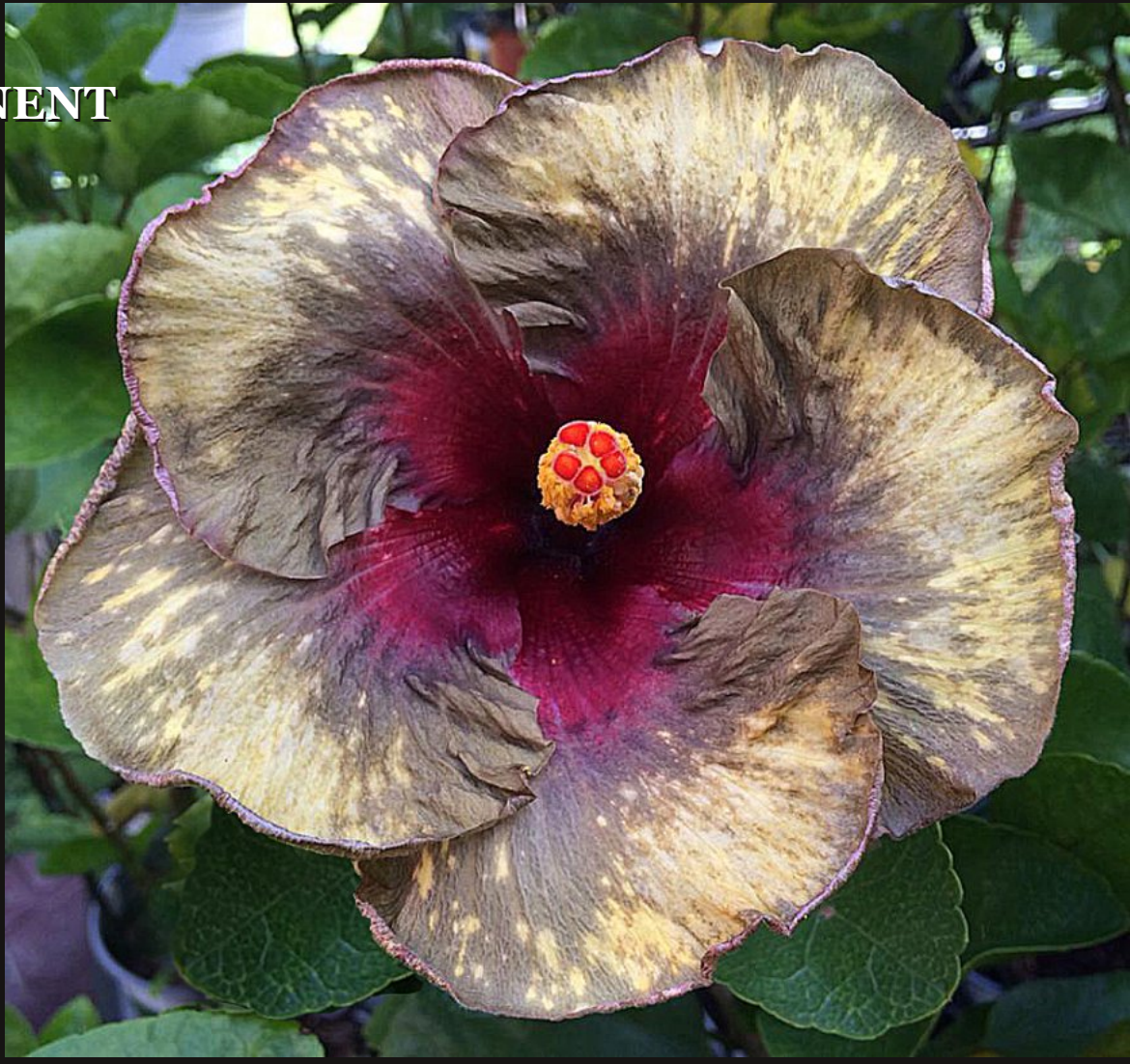
**TAHITIAN
MOODY BLUE**

(Misfire x Silver Memories)
Hybridized by Richard Johnson
Photo by Monika KS

© Monika KS

DARK CONTINENT

Parentage unknown
Hybridized by Yasha
and Daniel Brandt
Photo by Todd Alvis



DELTA DAWN (DUPONT)

(Renaissance Blue x Gabriel)
Hybridized by Dupont Nursery
Photo by Kelly Blevins



ISLAND QUEEN

(Georgia's Pearl x Harvest Moon)
Hybridized by Charles Black
Photo by Thomas Narolewski



CINDY'S HEART

(High Voltage x High Voltage)
Hybridized by Charles Black
Photo by Darren Eminian



TIGERAMA

(Katherine x For Pete's Sake)
Hybridizer Maurice Clement
Photo by Su Hnin Hlaing



IMMA FIREFLY

(Moorea Senior Charles x Moorea Merveille Splendor)
Hybridized by Charles Atiu
Photo by Aneela Lee



Know Your Enemy

MANAGING MEALY BUGS

Damon Veach



Mealy bugs started appearing in my garden about mid-summer. I noticed the worst infestation in the front garden which was not sprayed with All Season Oil as often as the back garden. When I moved all these plants to the back, I placed the pots along the driveway fence and gave them a really good soaking. I figured if I killed the plants I would just buy more. I know I sometimes overstep the boundaries with the way I treat for pests, but I can assure you that those I might still have are dead ones.

Mealy bugs always seem to be attracted to Hibiscus, and I've noticed this as long as I've had these plants. Mealy bug infestations appear on plants as tiny, soft-bodied insects surrounded by a fuzzy, white mess around the stems and leaf nodes, but they can also attack inside plants. Those visible mealy bugs are actually the females. They are small insects with fringes around their bodies, and, depending on the species, twin tails. Male mealy bugs are tiny winged insects that are rarely seen on plants.



Just make sure you keep plenty of oil or insecticidal soap around. You can also just use a mixture of your dish detergent, a little rubbing alcohol, and water.

I only use stronger insecticides if I feel it is completely necessary, and that is usually done after I place them in an area for treatment away from the good insects. I like my bees, butterflies, and other helpful insects, so I try to protect them from harm. Be diligent. It may take a while, but just remember - you are in control. Those pests are not, and they have to go.

Mealy bugs on a Hibiscus bud.
Photo ©Gil T Photography

What is a mealy bug?

Glasshouse mealybugs are common insects that tend to live together in clusters in inaccessible parts of plants, such as leaf axils, leaf sheaths, between twining stems and under loose bark. They suck sap from plants and then excrete the excess sugars as a substance called honeydew. This lands on the leaves and stems where it is often colonised by sooty moulds, giving the surfaces a blackened appearance.

Mealy bugs thrive in warm conditions, which is why they are not usually a problem on outdoor plants. They are active all year round on houseplants and in greenhouses.

Some species feed on plant roots, most of which are also confined to glasshouse and house plants. One species, the golden root mealybug, will survive on roots out of doors.

Symptoms

Infestations are usually first noticed as a fluffy white wax produced in the leaf axils or other sheltered places on the plant. The insects, or their orange-pink eggs, can be found underneath this substance. Severe infestations will reduce plant vigour and stunt growth and may cause premature leaf fall.

Root mealy bugs are also covered in a white waxy substance and found on plant roots. The golden root mealy bug is yellow in colour.



Three of the many species of mealy bug you might find.

Control

Non chemical control: Female mealy bugs do not fly or crawl far, so infestations are usually brought in on an infested plant. Always inspect new plants carefully.

Biological control

A ladybird, *Cryptolaemus montrouzieri*, can be released into greenhouses to control mealybugs. Note that the ladybird's larvae look like large mealybugs! Both the adult ladybirds and their larvae are able to find and eat mealybugs and their eggs in confined spaces on the plants. Parasitic wasps (*Leptomastix* spp., *Leptomastidea* spp. and *Anagrus* spp.) are also sometimes available for use against these insects. The parasitic wasps can give control of mealy bug populations where population levels are fairly low.

Ladybirds and parasitic wasps need relatively high temperatures and so are only likely to be successful during May to September. They are also susceptible to most insecticides so use as an alternative, rather than in addition, to chemical control. They are available by mail order from suppliers of biological controls.

Chemical control

Due partly to the waxy covering mealybugs are difficult to control with insecticides, affected plants should be sprayed thoroughly. In many cases it may be impossible to eliminate mealybugs.

The systemic neonicotinoid insecticide, acetamiprid is effective. Also contact action pyrethroid insecticides deltamethrin, lambda-cyhalothrin and cypermethrin.

Other organic treatments for use during the growing season include fatty acids, plant oils or extracts or natural pyrethrins. These organic pesticides have a contact action and short persistence and so may require more frequent use.

Plants in flower should not be sprayed due to the danger to pollinating insects.



Do your plants a favour and invest in a jeweller's loupe. This pocket sized magnifying lens is available on both Ebay and Amazon and is not expensive.

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