# Miltoniopsis in New Zealand

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**Vol 3 no 1. 2020**

## Message from the Group Facilitator: Allan Watson

Level 1, level 2, Level 3, then, suddenly Level 4 came as a bit of a shock to some. It changed the way we do things and where we go. Alas our orchid meetings were no longer ago, Orchid shows were cancelled and I suspect some felt their orchid world was falling apart because we had to stay in our own bubble, preventing us from seeing other collections.

I noted that the Facebook pages associated with orchids had increased activity with some very good posts appearing.
I also suspect the lockdown gave us all more time to focus on the needs associated with our respective collections. I know I spent more time with the plants with maintenance type activity and hopeful the results will show this summer. During the lockdown I had 4 Mps flower with one still going very strong.

A great effort by the team of 5 million should see us back into level 1 soon. The restrictions indicate we should be able to go back to having meetings in June some time with public shows still away off. Never mind we will get there.

I hope you enjoy the articles in this quarter's newsletter.

Allan Watson

**Growing Miltoniopsis in Lock down.**

Most of us will say there is little to no difference and they are right. However I suspect that we have all had more time to focus on our respective collections and make those adjustments that under norm conditions we might have either over looked or perhaps not even bothered. Time will show any benefit gained.

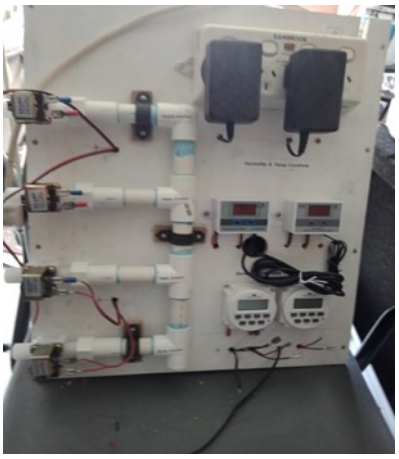
This time of year Mps are not usually in spike or even in flower. Having talked to a number of growers they are finding that the growing conditions provided this year are making some exceptions to this rule.

Here are two of mine that decided to flower while we are in lockdown. Mps. Rouge 'California Plum' and Mps Drake Will 'Ruby Falls'. This is the second flowering within a year for both these plants. I do have another couple in spike but as yet to flower.

Upon closer inspection I have found a couple of cases of scale in particular within the leaf foliage that had not opened properly. Treated with Maverick, GP oil and Meths mix soon put paid to any further cases.

So the lockdown has given me some further time to think about the Miltoniopsis I have in the collection, their overall growth and ongoing development.

At this point I am just on 18months into the two year fern fibre trial. The end result as I see it at this stage is a no brainer. All my Miltoniopsis are going to be re-potted into fern fibre. Both the plants in the above photo are in Fern Fibre and as said earlier this is their second flowering within a year and the flowers are just under, 100mm in Diameter. So with these results the potting medium was sorted. The next part of the trial phase involved the type of fertilizer, while this trial was only officially for a year I have continued using the Dyna grown product as I am starting to see the benefits coming through. . Its balanced formula provides the growth and development stability required, in my view to grow award winning plants.



The next part of my lockdown program was the sorting out of my automatic water and feed system. Over the years I have brought a number of timers off Mitre 10 and within a season they seem to fail. So while visiting another grower they showed me their system. There system just consisted of four timers and valves powered by discarded 12v mobile phone chargers. I decided to add a humidity and temperature control specifically for the Miltoniopsis and as I only had two different watering systems only two timers were needed.

Thanks to Ali Express this whole setup has cost less than $100 so bring on the summer. Looking forward to hearing your stories and happy to share any info on the water control system.

## What's out there on the internet?

Often when we search the internet we find snippets of information that could apply to our orchid culture. We tend to put the info into our info safe, for retrieval some time later.

Here are two articles that I came across that have been produced by a New Zealand supplier and as we move out of lockdown it is only fitting that we support local products.

The choice to use is yours as is the information to take on board.

Information link: https://www.bioleaf.co.nz/articles/seaweed-liquid-concentrate

https://www.bioleaf.co.nz/articles/transplant-shock

**Thanks to Bio Nutrients for allowing us to publish these articles:**

## What is seaweed?

Seaweed is a marine plant or algae that, grows in the ocean, rivers, lakes and other water bodies. Seaweed is constantly bathed in a soup of minerals and nutrients. Many of these minerals and compounds in the water are absorbed by the seaweed and provide a foundation for some of its amazing nutrient and plant growth-promoting properties.

Eighty-four of the earth's basic elements have been identified in seawater as either macro or trace mineral ions.

## What is in seaweed?

There are many elements and compounds found in seaweed that support plant growth, reproduction (flowering or fruiting) and health. Some of these include macro and micronutrients, proteins, vitamins, auxins, cytokinins, gibberellins, abscisic acid (ABA), carbohydrates, lipids, chelating agents plus many more.

## How does seaweed work?

How seaweed works is difficult to define. It is my opinion that it is the synergistic effect of the bioavailable nutrients, organic compounds and the plant growth hormones that send signals throughout the whole plant to stimulate biological and physiological responses in plants.

We also know that seaweed feeds the biology in and around the root zone and creates a healthy environment for root growth, improving soil structure and convert nutrient into a form that plants can absorb.

## What do the hormones exactly do?

Seaweed contains many hormones and other growth-promoting compounds.

The 3 most common groups of hormones we find in seaweed are:

***Auxins*** are produced in the apical meristem of plants, the "growing tip". They are responsible for cell division, cell growth and differentiation. They can also influence the development of root elongation, the lateral branching of roots.

***Cytokinins*** are produced primarily in the roots they travel upwards through the xylem vessels and promotes lateral growth and slow down the symptoms of ageing. In orchids, they can influence bud growth (lateral growth).

***Gibberellins***, are generally short-lived and found in very low concentrations. Gibberellins determine stem growth and will influence flower and fruit development.

New root growth 3 weeks after aplying seaweed as a pot drench

## What about the minerals.

There are over 70 minerals in seaweed all present in micro or trace quantities. They are present in proportions which are suitable for plants. The fertilisers we use, which are made from various chemical compounds only contain a handful of the nutrients required. It, therefore, makes sense to include seaweed concentrate with your fertilisation programme to supply the missing nutrients.

Combined with a quality fertilizer, seaweed concentrate will provide almost all the nutrients required to support plant health, growth and flowering (reproduction).

**Roots don't absorb bits of seaweed.**

Orchids or any plant for that matter cant absorb organic nutrients directly from the seaweed. In order for the nutrients to be made available to the plant, microbes need to breakdown organic matter and release inorganic compounds for the roots to absorb.

Seaweed acts as a food for microbes and they will flourish and get to work on the seaweed, releasing beneficial nutrients and compounds for the roots to absorb.

There are a whole lot of benefits to derive from having beneficial microbiology being active in the root zone and potting medium which I will not discuss in this article.

**Why are micronutrients important for plants?**

The micronutrients through their involvement in enzyme processes are part of a plant's nutrients profile, regulating growth and development.

Enzymatic reactions are dependent upon the presence of certain micronutrients, which serve as catalysts. The micronutrients (Iron, Copper, Zinc, Magnesium, Boron, Manganese and Cobalt) serve as catalysts which activate the enzymes. Even though plants only require small amounts of these micronutrients, they are just as essential as NPK (Nitrogen, Phosphorus, Potassium) and in some cases even more. A lack of one of the above trace elements can upset the balance of one or more enzyme systems.

Although the yield of the crop may not suffer because of a trace element deficiency, the quality can be adversely affected.

The deficiency of one trace mineral may not always be corrected by the simple addition of this micronutrient. The perceived lack of one trace element may be attributed to an excess of another. An excessive amount of iron will often display symptoms associated with a manganese and phosphorus deficiency. Excess copper and zinc reduce iron's availability. On grasslands, an excess of molybdenum produces a cop-

per deficiency. It is therefore deemed prudent and sensible to provide a balanced micronutrient package, such as seaweed, rather than a single element.

The fertilisers we use only contain a handful of micro-nutrients. Including a monthly application of seaweed is a great way of supplying all the micronutrients required to optimise plant growth and health.

**Other compounds found in seaweed**

Alginates help improve soil structure. Improved soil structure leads to increased aeration, improved water retention.

**Amino acids are used by plants for the production of proteins**.

Vitamins. Most seaweeds will contain the following in varying amounts. Vitamin A, B1, B2, B3, B5, B12, C, D, E, K, choline and carotene.

Betaines aid plants to cope with stresses such as cold, heat, water and increases a plants tolerance to abiotic stress.

**Fucoidan helps plants protection for strong sunlight and harsh environments.**

Laminarin helps accelerate plant growth and elicits defence response in plants to reduce infection by various diseases.

Mannitol increases trace element availability, increases a plants tolerance to salt and osmotic stress and has a role in a plants response to attack from pathogens; reducing biotic and abiotic stresses.

**How often should I apply seaweed to my orchid?**

The general recommendation for orchids is to apply a seaweed solution once a month. The reason for this is that seaweed contains growth hormones and frequent application can overstimulate cell-reproduction and cause flower and growth abnormalities.

If this does occur abstain from using seaweed for a couple of months. The orchid will revert to growing normally again. This does not cause permanent damage to the plant.

**Seaweed Application for Orchids**

**A. Pot Drench.**

The seaweed solution can be applied as a pot drench, on its own or combined with your nutrient solution. Please check that your nutrient and seaweed are compatible before applying.

Before and after repotting an orchid drench the pot with your seaweed solution this will help reduce transplant stress and stimulate growth.

For 4 to 6 weeks after repotting drench the pot with your seaweed solution to stimulate the plant into growing.

If your orchids have no roots or very little root structure, soak orchids in a solution of seaweed for 24 hours before repotting. The hormones in the seaweed may help stimulate the roots to grow.

**B. Foliar Application**

Apply the seaweed as a foliar spray to both the top and underside of the leaves. This should not be done more than once a month.

You can include a wetting agent or a drop or two of dishwashing soap to help spread the solution evenly on the leaf surface.

When applying a foliar spray all that is required is a light covering of the leaf and stem. Applying too much may result in the accumulation of seaweed liquid in plant cavities such as new growths, flower sheaths, leaf surfaces, etc. The seaweed in water is an organic compound and if left too long in plant cavities, it will start to break down and cause rot, attracting all sorts of organisms which may be harmful to your plant.

Regarding point 3 above apply foliar spray cautiously in winter and cooler months. During the warmer growing months, this should not be a concern

**My best advice.**

I encourage you to experiment and find what application method, rate and frequency works for your growing practices. Remember compared to other plants orchids grow slowly and it may take a bit of time to see the results in your orchids.

**Which seaweed product do we recommend?**

Not all seaweeds are created equal. Manufacturing and extraction processes affect the quality of the seaweed concentrate. Some seaweed products are a by-product of a manufacturing process and lack some of the vital ingredients.

We use Ocean Organics Seaweed Soil Concentrate and Ocean Organics Seaweed Foliar Concentrate on our orchids and house plants. Ocean Organics liquid seaweed products are manufactured by AgriSea New Zealand Ltd.

The New Zealand native seaweed species (ecklonia radiata) is batch-brewed with specially selected essential herbs for up to 90 days. The natural brewing process eliminates the use of processing with heat, chemicals, freezing or dehydration that might 'denature' the sensitive nutrient balance. The brewing process allows the natural growth stimulants and micro-nutrients to be released in an active form to enhance soil and plant health.

AgriSea NZ Ltd has been brewing quality products since 1996 and are a multi-award winning sustainable New Zealand company, family-owned and operated.

## Article number two

### Reducing Transplant Shock When Repotting Orchids.

Repotting is a traumatic experience and can cause an orchid to undergo transplant shock. Transplant shock may result in an orchid taking a long time to start growing or to produce flowers. I liken repotting to someone undergoing major surgery. It takes time to recuperate from the trauma of surgery, likewise, it can take time for an orchid to recover from the trauma of repotting. Liquid seaweed extracts/ concentrates contain growth hormones, nutrients and other compounds that can gently stimulate a repotted orchid to grow and recover from transplant shock.

### When should I repot my orchid?

The best time to repot your plant is when it is showing signs of active growth. Generally, this will be during the spring and summer months or when an orchid is growing new roots. Repotting during the growing season will allow the orchid to settle in and produce a good root mass.


Take extreme care not to damage the roots when repotting, particularly the tender growing tips.

## Re-potting preparation.

The orchid chosen for this demonstration is a latouria dendrobium. After 14 months from repotting, it has not done well and is deteriorating. I am hoping that changing the potting medium and the regular application of a seaweed concentrate will help to get it growing again.

## Repotting procedure. (example summerised)

The first step is to soak the orchid for about 30 minutes in the seaweed concentrate mixed at 1 part seaweed to 250 parts water. This equates to 4 ml seaweed concentrate to 1 litre of water. Soaking will soften up the potting mix and roots and this will help reduce damage to the roots when removing the old potting mix. Obviously, the roots will absorb some of the growth-promoting compounds during the soak.

After soaking remove all the potting mix and any dead or damaged roots. If required, break the plant up into smaller pieces and choose a pot size that will allow for 2 to 3 years of growth.

***The article suggests a potting mix***

Next, place the roots into the pot and pour in the potting mix. Place enough mix to ensure that the roots are covered so that the bottom of the rhizome is just sitting on top of the potting mix.

## Post repotting care.

Drench the potting mix with a solution of seaweed concentrate and a reputable orchid fertiliser. Continue using this mixture once a week for 4 to 6 weeks after repotting. As mentioned earlier this will help the orchid overcome transplant shock and hopefully start the growth process. After this 6 week period, revert to using a seaweed concentrate once a month and fertilise as you normally would. Remember you should only repot your orchids when they are actively growing which is during Spring and Summer.

**Roots – monopodial orchids.**

Another application for seaweed is to encourage root development on monopodial type orchids (leggy orchids). The regular application of a seaweed concentrate should result in the development of roots and break bud dormancy resulting in new growths developing.

To encourage root growth, apply Ocean Organics Soil Concentrate for 4 to 6 weeks as a foliar spray and pot drench, then revert to applying it once a month.

Use at a dilution rate of 1:250 (4ml seaweed concentrate to 1 litre water).

## The over application of seaweed concentrate.

Applying seaweed concentrates weekly for an extended period of time may result in your plants producing deformed flowers. This is caused by the action of the growth hormones on the orchid. This is why I don't recommend more than 6 weeks of a weekly application. If this occurs stop applying seaweed for 2 or 3 months and then revert to applying it once a month. Fortunately, this does not cause permanent damage and given time your orchid will revert to producing normal flowers.

All plants whether grown in a pot or in the ground will benefit from transplant shock treatment described above.

To see more about Bio Leaf Nutrients products click on this link

https://www.bioleaf.co.nz

# Editor's Ramble

When I started this publication 2 years ago, I knew that it would be difficult to maintain over a long period of time when it is only based on one genera. I have got to the point when the future of this venture is in doubt. This issue is, in the main, the work of one person—Allan Watson. Less and less people are willing to put pen to paper (or fingers to key board) to share their experiences and so it is becoming more and more difficult to find material to print.

So we have reached a crossroads and have to decide where to go from here. Allan Watson ran a questionnaire on the possibilities available to us and these are :-

**Do we continue with the Mps newsletter**

**Do we reduce the Mps newsletter from quarterly to yearly**

**Do we change the focus of the Mps group to include the wider Odontoglossum Alliance in New Zealand**

**If a change is promoted, the Group would be renamed as the NZ Odontoglossum Alliance Growers**

The general consensus is that we should include the wider Odontoglossum Alliance in New Zealand and be renamed as the NZ Odontoglossum Alliance Growers.

We chose not to call it the NZ Oncidium Alliance as Oncidium covers too great a range of genera most of which need a different set of conditions than the genera that were originally known as Oncdiums.

I have been growth Odontoglossum and Odontioda and others in this group since the mid 80's and have done a limited amount of breeding with them. I have found them easier to grow than Miltoniopsis, so I can write about my experiences in this area, but I need you to write about yours.

Late last year I started a limited amount of breeding which I have continued this year (in spite of Covid) and I hope you will take up the challenge and see what we can achieve.

Odonioda Arohena 'Tudor Rose'

(Oda. Peter Timoney x Oda. Mem. Kendrick Williams)

Odontioda Shelly Pinky

(Oda. Shonan Pinky x Oda. Shelley Anne)

Above is 2 of my breeding

Alan

For many , many, years I have failed absolutely to cultivate Mps.

Last year I decided to try again and the image shows the results……what am I doing right?

I am convinced it is all about the quality of the plants. These were from a specialist nursery in the Netherlands and far and away better and stronger quality than the stuff generally available in the UK.

I do have a regular problem though. Very often the flower spikes get caught up in leaf folds and get bent/ disfigured. If I notice early enough I usually cut the offending leaf away although the flower spike keeps developing it does not recover completely. Any ideas?

Sincerely

Richard

Richard,

Here in New Zealand, we also found that the plants that were imported from the Netherlands for the pot-plant market were much stronger growing and flowering than the little number of plants still available in this country.

However, Miltoniopsis are very intolerant of conditions that are outside their requirements. What, I think that you are seeing, is the effect of humidity that, at times, is to low and causes the flower spikes to jam inside the leaf. It will also cause concertinaing of the leaves. Try and keep the humidity levels above 60% but not above 90%.

That is a very well grown plant, Congratulations

Alan