

January 2019



The African Violet Way

An E-Newsletter by Ruth Coulson

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The Potting Mix issue, (see pp.2-6)

And so this is the first issue of “The African Violet Way” for 2019. I would like to wish you all a very Happy New Year. May only good things come your way this year.

Because of the difficulties I have had with my plants and the need to repot most, I have prepared them by removing all extraneous leaves, all flowers and so on. This means I have virtually no African violet flowers at the moment. This isn't so bad as it seems as we are having a seemingly endless heat wave so the flowers wouldn't last too well anyway. But it does mean no photos of my current plants.

In looking for flower photos I have had to dig through my photo archive again. I must say I have really enjoyed doing so, just as a way of revisiting some old friends. I have also come across photos of plants I hadn't even remembered having grown.

Below is Majesty, one of the first violets released with yellow in the blooms. Through the 70s and 80s we wanted yellow and we were told that there would never be any African violets with yellow flowers as there was no yellow gene—or something of the sort. And then, all of a sudden in the 1990s, there they were! OK, it isn't pure yellow, but it has lots of yellow in it with the pink and white. There were three released at the time, by Nolan Blandsit.

There are now 149 violets with some yellow in the flowers listed in First Class although not, I think quite as prized as they were.

The headline photograph is of “Lavender Delight”, an oldie but a goodie. Haven't seen it for years. It grew big and bold and never, ever disappointed the grower.



The Bare Facts on Potting Mixes

Here are a few basics before we look at specific mixes.

So what does a “normal” African violet potting mix consist of?

Traditionally, for many a satisfactory mix consists of sphagnum peat moss, perlite and vermiculite. Individual preference determines the proportions of each and things like the origin of the peat moss or the grain size of the perlite and vermiculite. Quite a lot of growers do not use vermiculite in the mix.

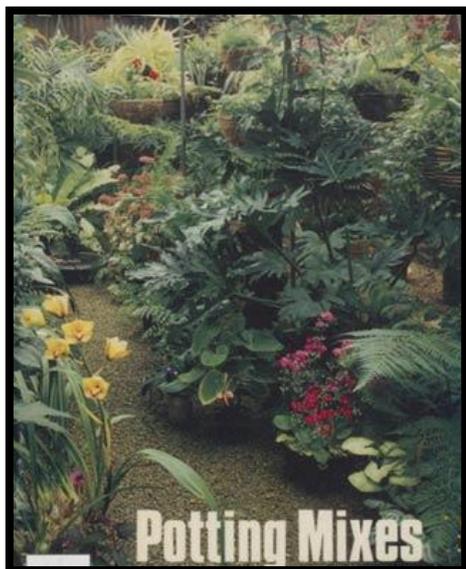
But, let's just realise there are no magic ingredients for potting mixes. There is no physical ingredient that is a must to include. That goes whether you are growing African violets or anything else.

African violet potting mix has to have various qualities:

1. It must be firm enough in texture to anchor the plant in the pot.
2. It should be capable of holding moisture and nutrients close to the roots of the plants.
3. It should have plentiful air spaces (called air filled porosity).
4. It should be free of toxins, salinity and unwanted organisms

And that is pretty much it. Of course it isn't as simple as it sounds because there are all sorts of options on ingredients that might be used to hold moisture and nutrients, and plenty of ingredients to create air spaces. And quite a lot of them are appropriate for African violets.

Potting Mixes and the Care of Plants Growing in Them



That is the title of a booklet from the CSIRO Division of Soils, and published in 1985. It has been a staple in my own library of books since then and I still find it useful. Long since out of print, fortunately it is now available online you can download it by clicking [here](#). (CSIRO is the Australian entity, the Commonwealth Scientific and Industrial Research Organisation). Although the booklet is not specifically about African violet growing, its general look at the problem of mixes is totally relevant.

You might find it takes a little while to download.

You might also want to read [this](#) page on the website of the Western Australia Department of Primary Industries and Development. Although it is intended for the nursery industry, the discussion of the characteristics of a good potting mix and the section about porosity are important for anyone growing plants in pots.

It is more recent than the CSIRO publication and does include coir as a possible potting mix ingredient. Jarrah sawdust is unlikely to be relevant to you unless you live in WA.

Experiences with coir in potting African violets – Not actually my last word!

As I previously explained, I had a bad health period in the second half of last year and my plants were neglected for a substantial time. The trials I had started using different potting mixes have largely been ruined. There are, though, still some lessons to learn. In fact, I think disaster is often the best teacher. If only we have the patience to learn. And, of course, it is interesting to see if there was any difference in how the plants in the trials reacted to the hard times to which they were subjected.

Many different mixes

I discussed in earlier issues of *The African Violet Way*, that I made up many different potting mixes: some based on coir (some brick coir and some the loose product), some based on sphagnum peat moss (some the end of a bale of Lithuanian peat and some using a new bale of Canadian peat), and you might be surprised to learn, some based on garden compost. This last is a return to the way I was growing my plants in the 1980s. It worked well for me then and it seemed like a good thing to use for comparison with the other mixes.

I labelled my plants according to the mix I used, having named my mixes, A, B, C, etc. and kept extensive notes. I did my best to do some side-by-side tests.

Early differences?

Back in July and August I thought I could see some differences in the way some plants were growing, depending upon the mix they were in. For instance, a mix that had both sphagnum peat moss and garden compost seemed to be giving better, stronger growth and more flowers as well as greener leaves when compared with a mix simply based on brick coir. There were also some other cases where the same plants grown in two or three different mixes and kept side by side and using the same fertiliser, seemed to show some variation.

All growth much the same!

Then, with a couple of month's further growth, and despite neglect around all the plants, most plants were recovering well from their problems and any differences in line with the various potting mixes are not so apparent. In fact in most cases any differences that I could see were merely a matter of individual plant variation, the results of which can only be ironed out by having a larger number of plants in a test sample. That unfortunately is beyond my ability and space, so I think I just have to make the conclusion that any differences are very small indeed, even if they exist.

***After all this, my takeaway result is:
- any differences in growth were
virtually imperceptible.***

In their early growth, I thought that there was something to see, but once they have grown on—well, any differences can easily be attributed to individual plant behaviour. And of course to the grower's inattention.

I felt, though, that the plants grown with the coir brick mix don't seem quite as green in the leaf or perhaps not quite as large, but that is a long way from saying that particular mix is no good.

The plants growing in mixes with garden compost in them continue to grow just as well as anything else, no better and no worse. The only thing was a slight problem with fungus gnats as would be expected with this sort of material, even though the compost has been pasteurised in the microwave oven. That seems to have passed now. Similarly, the plants in mixes containing coir and those with peat moss are growing equally as well, or as badly as the case may be, as those in other mixes.

As for the two kinds of peat moss and the two types of coir – well, having been away from the plants for some time, it became such that only by looking at the notation on the label could I tell which mix is used for which plant.

I am really happy but somewhat confused by this outcome. I did have problems with my plants in 2017 that I truly believed to be related to the coir mix I was using.

And some respected growers that I know of have also had bad experiences with coir. Other people are growing prize winning violets, and other plants using it. Many are using the coir bricks that I thought less perhaps slightly less satisfactory than other coir.

Even though I have been back working with my plants for some months now, they have not been looked after as well as they should be. I find myself only able to work for a restricted period per day and with a large family of plants this means that some have to wait their turn. At this stage virtually all need attention.

But the similarities in growth across all 12 different potting mixes are now even more evident than it was a couple of months ago.

Why is it so? I have ideas, of course, but no real proof.

Here is the reason I would like to cease using sphagnum peat moss in my potting mixes. A recent article in the magazine "Nature" gives the following facts:

"Stop carbon loss. Protecting peatlands is the first priority for keeping existing carbon in the ground. These hold between 32% and 46% of all soil carbon (an estimated 500–700 Gt of approximately 1500 Gt) in an area about half the size of Brazil. Each year they take up about 1% of the global CO₂ emissions generated by humans.

*Yet 10–20% of peatlands have been drained or burned and converted to agriculture, particularly in tropical areas. For example, fires used to clear land in maritime southeast Asia blanketed much of Indonesia in a toxic yellow haze during September and October 2015, emitting more CO₂ per day than the whole of the European Union. Globally, such destruction is using up 1–2 Gt CO₂ per year of the remaining emissions budget necessary to stay within the Paris climate targets. To protect this resource, governments must ban burning of peatlands, **stop their use in agriculture**, or plan and enforce practices that preserve peat through continuous wet conditions."*

Read the article for yourself at:

https://www.nature.com/articles/d41586-018-07587-4?utm_source=briefing-dy&utm_medium=email&utm_campaign=briefing&utm_content=201812024

1. I wonder whether the coir bricks may be uneven in quality. Perhaps I had a couple from a batch that had an unsatisfactory salt level. I have no proof of this, but it goes without saying that the convenience of coir bricks would be negated by having to wash the coir.
2. Another possibility, which is similar, could be potassium, as mentioned in a previous article. It seems that coir may have a high concentration of potassium and if a high potassium fertiliser is used the dosage may just be enough to suppress the uptake of nitrogen. I still incline to this possibility, as when my plants showed problems, I had been using a rotation of fertilisers that did include two with high potassium content.
3. The high water retention of coir may also have caused a problem in some cases. It is said to hold up to 30% more water than sphagnum peat moss and consequent adjustments must be made to the proportions of the other mix components.

Acidification of coir mixes

One thing I believe that I can debunk is the tale that I have been told that coir becomes too acid. In March last year I took a sample of rehydrated brick coir, and put it in a covered container. Its pH at the time was 5.6, but within six weeks it had risen to 6.5 and there it has stayed while I have tested it from time to time. It remains at that level. I can't help thinking that any acidification would only be the normal result of the fertiliser application and might apply equally across all mixes.

Where does this leave me?

Fortunately I was really never intending to solve the puzzle of why coir works for some of us but not for others. Nor was I trying to establish the "best" potting mix to use. I was wanting to find a way to grow my plants that gave me the best results, or at least good results, and if possible to find a way to use coir instead of the environmentally unsound sphagnum peat moss.

Having invested in a new bale of Canadian sphagnum peat moss during this experimentation I am likely going to continue using it while it lasts. After that – well I would ideally like to discontinue using peat.

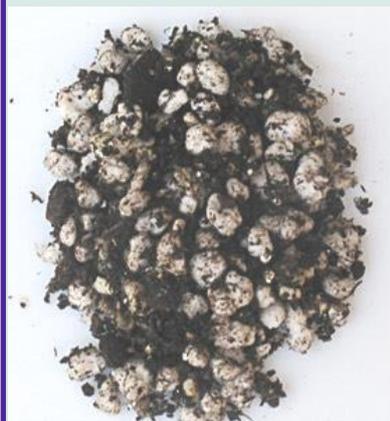
Using no vermiculite

One of the mixes I have been using lately contains no vermiculite, only peatmoss and perlite. I find that quite satisfactory, and very

Aeration

If I needed any reminding, this series of experimental mixes demonstrated to me once again that the aeration of the mix is the most important factor in keeping the plants growing strongly. Roots seem to penetrate a well aerated mix more rapidly and grow better. Happy roots mean a happy plant.

For African violet growers perlite is the aerating medium of choice, although there are others. Just remember the larger the particle size the larger the air pockets and the better the aeration. Naturally it is important to have the right proportions of perlite to the other ingredients in the mix.



Well aerated mixes not only promote better growth, but they resist compaction better. This means you may not need to replot as often.

simple to mix up. I also had success with a mix of coir and perlite.

Using no peat moss or coir

But I am thinking it would be worth trying a mix of just vermiculite and perlite. Can't see why that wouldn't be a good one. I must give it a go. At one time it was popular for plantlets and for striking leaves. I have never seen it used for full grown plants, though. Why not? The vermiculite is rather high in pH so care would have to be taken to correct the pH downwards in the final mix.

To adjust pH down the material to use is aluminium sulphate, just as to adjust the pH up one uses dolomite.

Sphagnum moss

And then there is the whole question of using sphagnum moss in a mix. I have used it over many years for Episcias, miniature Sinningias and for Streptocarpus. But until now I haven't used it for African violets. But, once again, why not? Some people report good results.

Once having become involved in all this experimenting I just don't seem able to stop.

Heavy potting mixes, light potting mixes.

This is another interesting thing about potting mix. We have all been told to use a "light" mix for African violets, and that a "heavy" mix won't do at all.

But what is meant by "heavy" and "light".

It doesn't always have anything to do with the weight when you lift the pot, although it can.

A light mix is so called because it has lots of air in it (see under Aeration), which is pretty essential for good and reliable plant growth. And naturally air is light to lift. But what about the other ingredients in the mix? Obviously if the rest of the mix that is not air consists of lightweight materials like perlite and vermiculite, yes, it will be light in weight. And that is something we do want to make the plants easy to manage.

But what if you use a heavier ingredient? I illustrated this point some years ago by planting a few plants in a mix consisting of aquarium gravel (fairly large grains) and sphagnum moss. The result was really heavy in the hand, but the plants did well. The gravel was able to provide aeration and the sphagnum moss was able to keep some moisture at the roots of the plant. I wouldn't advise such a mix, though. It was quite difficult to keep the peat properly distributed in the gravel.

So. . . we have to know the weight of the plant when moistened and when dry. Once you are that familiar with your plants and can tell if they are dry by how they feel, you know exactly when to water. Of course this is irrelevant if you are wick watering because the plant draws up moisture as the mix dries out.

Getting up to date with a few things begun earlier

Corroboree plants

It was back in March that I planted these leaves and only now can I say I really have flowering plants. Of course flowers did try to appear over the last two months but I have removed them in the interests of growing the plants larger. And then I found I had to give away one of the plants as my rule (which I sometimes stick to) is never more than two plants of the one variety.



And that's OK. Corroboree is such a strong, and large grower that two is as many as I can accommodate. I am still trying to keep the flowers off the plants because of the very hot weather, but this one is trying so hard to flower. I took its photo before removing them. Leaves growing a little upwards and the effect being a bit "open" is because I have turned the lights in my growing area off during the current heat wave.

Had it not been for my problems I believe I would have had young flowering plants of this in just six months. But not to be. Perhaps I will try it again some time, if that isn't asking for trouble!

Sticky Insect Traps

Well, here's how those look now. Pretty nasty isn't it? And of course they have not eliminated bugs from my plants. I don't believe they really can do that although some do. But they can indicate that there are pests present.

And, yes, there were fungus gnats (the larger insects seen on the trap) and thrips (the smaller insects). I explained already that the fungus gnats arrived because of the compost in some of my potting mixes. Thrips are always around and move in as soon as I turn my back, I swear.



Actually the funny thing is that there don't appear to be any gnats now. And that's strange as I have done nothing to eliminate them. So perhaps the traps did catch the lot. I have sprayed for the thrips and have removed flowers for a long while. I hope that they have gone for the time being.

Actually the trouble with most insects and mites that get into our African violets is that in the warm weather (well, at the moment it's scalding hot weather) they breed even faster than at their normal rate. And that's pretty fast indeed.

They say that the traps should be changed when they are covered with insects or dust. In other words when no further bugs can stick on. Well, mine aren't covered and some of them have very few insects on. But I have just ordered some more to keep in reserve for when I need them.

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Winter leaves/Summer leaves

Have you ever found you have plants like this one?

It is a classic "change of seasons" plant.

The outside, and somewhat smaller leaves with heavier variegation were those that grew during winter.

Now that temperatures are warmer, the character of the leaves has changed completely. The newer leaves are a lighter green, there is less variegation and they

indicate they will grow a little larger. The plant is perfectly healthy.

So, why the difference and what can be done?

Warmer temperatures promote faster, stronger growth, giving lighter green larger leaves. Cooler temperatures promote variegation. When plants are repotted in the spring, as this one was, the effect becomes very marked.

In this particular plant, the best thing to do was to remove all the outside darker leaves as they would soon be overcome by the other leaves. This will allow the new foliage to grow out evenly. The short bare stem beneath the leaves may be covered by a little additional potting mix, but in the unlikely event it is too long, further repotting may be necessary.

And the variegation?

With this kind of variegation the leaves that have very little variegation will stay that way. All that can be done is to keep the plant in conditions as cool as possible, so that new growth has more variegation. In my plant room in summer this is virtually impossible, so I might have to wait for autumn before seeing very much colour in the leaves of this particular plant.

Some varieties are more sensitive than others to these temperature driven changes.

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