# OUR EXPERIENCES WITH SOIL-LESS POTTING MEDIA

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Our initial soil mix consisted of the following: coarse sand, sandy loam, rice hulls, peat moss These were spread out in layers and turned four times by hand. This mix was open and dried out quickly, with very little fertilizer added. We then tried a similar mix incorporating sewerage sludge. This mix proved difficult to handle because of the sludge, and fumigation was very difficult. At this time we were fumigating with methyl bromide. We then set about installing a steam generator to pasteurise the medium, at this time we also installed a cement agitator to mix it.

We also switched across to a sawdust mix using three parts red gum sawdust to one part coarse sand. Initially the sawdust used was from heaps 20 to 30 years old. We felt that this sawdust would be sufficiently composted but found that it did tie up nitrogen and plant growth was very slow.

We then began to liquid feed with Aquasol, but the response was negligible. We were then advised to liquid feed with ammonium nitrate. This gave us a much better response. However, this old sawdust was expensive, and so we switched to fresh sawdust which needed to be composted. This was done by the following method. We added. 5 kg ammonium nitrate, 5 kg calcium nitrate, and 600 g magnesium.

These were dissolved in water and added to one cubic metre of sawdust. To this was added. 1.8 kg superphosphate, 1 kg potassium, 1.1 kg Fritted Trace Elements, and 2 kg lime.

This was mixed thoroughly with a large amount of water added. This was then stored in heaps for at least six weeks. It was then used in our potting media at the rate of: 8 parts sawdust, 3 parts coarse sand, and 1 part brown coal.

To this we added the following fertilizer mix: 1 kg lime, 850 g superphosphate, 200 g potash, 19 g Fritted Trace Elements, 1.5 kg Osomocote, 75 g sulphate of iron, 75 g G.U. 49.

However, single cultivars of plants failed at different times due to ammonia burn. Also a great deal of liquid fertilizer was required to keep the plants growing. The liquid fertilizer used was ammonium or calcium nitrate

Considering the problems of managing this mix and the crop failures that occurred a switch to bark was made.

This was done simply by replacing the sawdust with bark The bark was much more expensive but eliminated the need

for composting and the risk of ammonium burn, and plant growth was good. As time progressed the mix was changed to: 3 parts bark, 2 parts coarse sand, 1 part brown coal, and the fertilizer mix was changed to: 2 kg 8 to 9 month Osmocote, 1 kg 3 to 4 month Osmocote, 850 g lime, 850 g superphosphate, 200 g potash, 19 g Fritted Trace Elements, 75 g sulphate of iron, and 75 g G.U. 49 per cubic metre and, more recently, this has been changed to: 2 kg 8 to 9 month Osmocote, 1 kg 3 to 4 month Osmocote, 850 g lime, and 1 kg Micromax. This fertilizer blend is varied for different plants and pot sizes.

For *Proteaceae* we use: 2 kg 8 to 9 month Sierra Blend & Iron, 1 kg Micromax, 850 g lime, and 2.3 kg dolomite lime.

General Mix: 2 kg 8 to 9 month Osmocote, 1 kg 3 to 4 month Osmocote, 1 kg Micromax, 850 g lime.

For indoors the Osmocote used is: 2 kg 3 to 4 month Osmocote, 1 kg 8 to 9 month Osmocote. For large containers the Osmocote is: 1 kg 3 to 4 month Osmocote; 1 kg 8 to 9 month Osmocote, 1 kg 12 to 15 month Osmocote.

This medium has proved successful until last summer when the problems of watering were extreme. So two trial mixes were tested in an endeavour to eliminate this watering problem. These trial mixes were: (a) 2 parts bark, 2 parts coarse sand, 1 part sandy loam, and 1 part brown coal, and: (b) 3 parts bark, 1 part coarse sand, 1 part sandy loam, and 1 part brown coal

The second mix is the one we will be using as it is lighter but still gives us the required results.

## PROPAGATION OF *BORONIA SERRULATA* Sm. (NATIVE ROSE) FROM CUTTINGS

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**Abstract.** *Boronia serrulata* is a plant with great horticultural potential but as yet is not widely propagated and grown for amenity horticulture A study was made into the effects of applied auxin, temperature at the base of the cutting, and source of cutting material on the rooting of cuttings of this Native Rose Response to auxin depended on physiological state and genotype of donor plant Cuttings selected in the spring (November) from wild donor plants showed improved rooting percentage to applied auxin, however those taken in late summer (February) were unresponsive Cuttings selected in November from container-grown mother stock plants showed little response to applied IBA up to 8,000 ppm. Basal temperature of 29°C