



From the pages of *The Kalhari*
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USING POOL ALGAECIDE IN THE ORCHID BUSH HOUSE

Warren Wilcox, *The Kalhari* February 2020

For some time, I have been observing a number of orchid culture hand-outs. Facebook posts or growers themselves recommending the use of pool algaecide in the bush house at certain times of the year.

“Watch out for high humidity in your orchid house as this with cold produces Botrytis. I hose down my orchid house floors once a month with *Alginox*. I then rake over the gravel to disturb it and then give it another dose.”

“Every couple of months, we spray everything with *Alginox*.”

The correct dilution and what we are actually going to do with the product are often scant on detail. So, I have embarked on a journey to collate this information into a table to make it more accessible.

Pool algaecides are used in swimming to control algae and bacterial growth in swimming pools. They are used in addition to chlorine and frequently, pool owners reach for these products when the walls or water starts taking on a green tinge. The basic theory behind using these products in the bush house, is to utilize their bacterial and algae killing properties as a preventative and controller of disease not only around the bush house but also on the orchids themselves.

Physan20, a similar and more expensive American product (that does not disclose the concentration but does provide guidance to users) reports their product effective on a range of orchid diseases when used according to their directions:

Disease	Botrytis	Brown Canker	Crown Gall	Crown Rot	Petal Blight	Soft Rot
Orchids	✓	✓	✓	✓	✓	✓

From Physan 20 Usage Guide

The active ingredient in the algaecide is benzalkonium chloride. Pool strength algaecides containing benzalkonium chloride have a concentration of **150g/l**. *Alginox* is just one brand and is produced by pool supply company Zodiac. When many growers talk about pool algaecides, this is the brand you will most likely hear. It is not too expensive and it is easy to get from Woolworths, Coles, Big W, pool supply shops and hardware stores. Just not in Bunnings! Bunnings sells *Hy-chlor*. Barracuda (another pool supply brand) has a similar product simply called *Pool Algaecide*. None of them are hard to find. The key thing to look out for is

“Active Constituent: Benzalkonium chloride 150 g/l”.

This will usually be an obvious feature of the label. The concentration – 150g/l - is very important. There are other products on the market that contain benzalkonium chloride at higher concentrations which are designed primarily for specialist horticultural applications and these can be at concentrations up to 500g/l. These products would need to be diluted much more before use and have significantly different health and safety considerations. When you buy one of these products for the first time, also check that there are no surprise ingredients like copper or boron. Copper should not be applied to dendrobiums and both copper or boron in high concentrations (as they usually will be) will be toxic to most plants. Please also note that Bunnings sells another product *Hy-chlor Green Blaster* which is at the higher concentration of 200g/l.

At 150 g/l, the Safety Data Sheets say these products are non-hazardous but once the concentration increases you soon see them classified as hazardous. When using liquid chemicals of any type, the appropriate protection is **barrier** – goggle, gloves, long sleeves etc. Care should always be taken when handling chemicals.

The rates given in the table that follows applies to all pool algaecides with a benzalkonium chloride concentration of 150 g/l. If you buy something different you are on your own! These rates have been used by multiple growers with success however, if you choose to follow, you do so at your own risk. Please Note: These products will kill live sphagnum moss and bush moss. They will also mark flowers. Despite these limitations, pool algaecides can be a useful product for orchid growers.

APPLICATION RATES FOR POOL ALGAECIDE CONTAINING BENZALKONIUM CHLORIDE 150G/L

- BUSH HOUSE**

APPLICATION	RATE	DETAILS
Gravel paths and walkways	6ml per litre of water	Every two months. This rate is recommended by Lloyd Edwards (Earth to Joy). Avoid overspray on plants at this concentration. Where possible, remove plants from the spray area. Avoid drips on plants.
Under benches and walls, roofs	6ml per litre of water	

- CUTTING TOOLS**

APPLICATION	RATE	DETAILS
Disinfectant – to kill virus, bacteria, fungus, algae	5ml per litre of water	Remove any debris or plant matter from the cutting edge with care. Soak for 10 minutes. It is recommended that you have multiple tools that you can use in rotation.

- PLANT APPLICATIONS**

Deflasking	1.75ml per litre of water (7ml in 4 litres)	Soak plants including agar (add to flask) for 5 minutes. Also soak the media that plants will be potted into for 5 minutes. Remove seedlings from flask and pot-up. Spray seedlings at the same rate, once per month or anytime disease is detected.
Preventative Maintenance of Mature Plants – Dendrobiums and Sarcophilus	3ml per litre of water	Once every one or two months This rate is recommended by Lloyd Edwards (Earth to Joy).
Preventative Maintenance of Mature Plants – Other	1ml per litre of water	Use once a month.
Dividing Plants	3.75ml per litre of water (15ml in 4 litres)	Remove old compost. Soak plant for 5 minutes. Divide plants using sterilized cutting tool. Soak divided plant for 5 minutes, then repot. Seal wounds with Tomato & Vegetable Dust.
Active rots –black rot (Pythium or Phytophthora), brown or crown rot (Erwinia), Brown spot (Acidovorax)	3.75ml per litre of water (15ml in 4 litres)	Remove compost/ Soak entire plant for at least 10 minutes. Remove visible rot with sterilized cutting tool. Soak plant wounds for an addition 10 minutes and seal with Tomato and Vegetable Dust. Soak fresh compost for 5 minutes and repot.
Cut-flowers	5ml per large vase	Add to water in vase. Trim end of flower stem and place in vase. This solution will stop or reduce the water turning into soup and becoming smelly but does not increase the life of the flowers.

Unless otherwise indicated, the dosage rates quoted are derived from lists circulating through numerous orchid societies, Facebook pages and websites, purportedly compiled by an unnamed nurseryman on the NSW North Coast. Tomato & Vegetable Dust recommended by Ross Maidment (Aranbeem). Cut-flowers source - Internet (various).