

How to Make *Phalaenopsis* Flower

By David Harmer (Courtesy of South Australian Orchid Bulletin)

Flowering in all orchid genera species is generally a response to stress, in nature this is caused by seasonal changes in light, temperature and other various influences. It is these conditions that the plant is used to in nature, so that generally speaking a worried and stressed plant will flower. Most plants in orchid collections both species and hybrids seem to last about 12-14 years roughly speaking and then just seem to curl up and die for no apparent reason (other than rot or disease). This is due to the plant having such an easy time resulting from the excellent conditions provided by us, the grower, this is also often referred to as TLC. The plant is never stressed because we grow our plants in controlled conditions, with the temperature always in the same ranges provided by our heaters in winter with the temperature never falling below, say 14°C, or whatever it is set to. The evaporative air conditions is maintaining a maximum in the range of 32°C in summer or there about. The plants are watered regularly, always fertilised on the dot, the fan or air circulation always at the same speed all the year round. In nature plants experience droughts, monsoons, hot/dry spells, cool/dry spells and cold wet spells and many other combinations of conditions. They are experiencing just about every different kind of condition that nature can provide. These varying conditions from time to time place the plant under stress, generally around the months of their normal flowering time where they come from and this encourages the plant to survive. Survival in nature is to reproduce and to reproduce the plant has to flower. In metropolitan culture for both species and hybrids we should look at the seasonal change from summer to autumn when the night temperature is falling outside of our controlled growing area, where our inside temperature is normally maintained at 12-15°C and the outside night temperature is starting to fall below this to 8°C or less. To induce and encourage *Phalaenopsis* to flower, when we want them to we need to manipulate the light, temperature, water and humidity, fertiliser, air circulation and potting times. All of these will give the desired result but any two or three will work to produce the stress factor. Do any combination or all of the following.

Light

Raise the light level by 30-40% by removing the shade cloth for about three weeks and then return the light back to normal by replacing the shade cloth. Do this any time from late February into March. If it is too hot then put this off for a week or two until late March.

Temperature

Increase the maximum temperature and decrease the minimum temperature by at least 3°C for three weeks beginning early March. With the shade cloth off the day temperature would automatically rise together with the air-conditioner (if used) thermostat turned up to increase the temperature to say 35-38°C. Make sure that the heater thermostat is turned down so that it does not come on at night unless the night temperature falls below about 5°C. This will safeguard the plants if there happens to be a frost.

Water and Humidity

Reduce watering by missing every other water period and also decrease the humidity if possible to just below 50%. This 'drier air' in the growing area will also help to provide a wider gap between the higher and lower temperature. Keep this up for three weeks.

Fertilizer

Eliminate high nitrogen fertilizer and increase the phosphorus given to the plants. It is preferable not to give any fertilizer at all for this period, but this is up to the individual. Feed the plants Epsom Salts (Magnesium Sulphate) once per week for two weeks at a rate of one teaspoon per litre of water and then on the third week flush all plants with plain water and then fertilize with high phosphorous fertilizer until the flower spike is about two months developed, then switch back to high nitrogen fertilizer until the flowers begin to open.

Air

Increase air movement if possible. Because the light and temperature are higher it will be necessary to increase the air flow by installing an additional fan for about a month. If the temperature allows, turn the water off if using an evaporative air conditioner but leave the fan running day and night for this period. This will give you the additional air movement required and also the increase in temperature we require. Don't allow the plants to 'fry'. Keep your eye on the maximum temperature as you may need to turn the water back on if the temperature goes over 35-38°C.

Potting

This should be done at a minimum of two months prior to starting the flower induction process, December to January is about the right time for this. This action also produces a stressing situation.

Conclusion

It can take up to two seasons for all of the plants to react to the above as they need to readjust to this 'terrible time' you are dealing out to them. By doing all or any of the above it will be noticed that even plants as young as two years from the flask will produce flower spikes during this process but it pays to cut these off as the plants are too small to sustain an inflorescence and the leaves often become flaccid and limp setting the plant back even to the extent of it just slowly 'fading away'. This is because the leaves are too small and there is not enough leaf area or root system to feed the flower spike. We always cut off any flower spikes at the start of the process and only cut off those that flower late winter to spring. The summer flowering plant spikes should be left on these hybrids as this process will make them flower more profusely by initiating additional spikes. Using the above system will produce multiple spikes and up to two flowerings per season but remember the smaller plants will suffer if you leave the spikes on. If a plant has around three or four leaves then cut the spike(s) off as the plant will not be able to cope with a flower spike with such a small leaf area. Because the plants are monopodial, that is that its growth is from a single stem with no bulb and it grows each year upwards from this single stem, it will gradually lose its lower leaves so that good culture is required to provide an excellent root system to keep 5-6 or more large healthy leaves on the plant. The idea is to try and maintain these 5 or 6 large leaves or more on a plant year after year. This will then increase the length of the inflorescence and the number of flowers. Most *Phalaenopsis* need to be 4-5 years old before planning them under this stress. The larger the leaf area and the larger the root system will help