

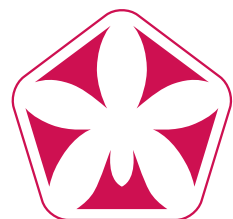
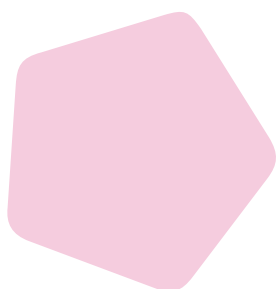
BREEDING BUSINESS

NEWSLETTER MAY 2022



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Floricultura
ORCHIDACEAE & ARACEAE

Breeding your success



Phalaenopsis

Potworm caught!

A great deal of research into solving the potworm problem has yielded a very simple solution: covering the bottom of cultivation tables or containers and plants with netting. Experiences from growers who have done this for some time revealed this solution to be highly effective. The number of mosquitoes counted in catchlights has dropped dramatically: by a factor of 5 or more. Moreover, if a mosquito is nevertheless caught under the netting between the plants, it cannot migrate to other tables as it is trapped. Plants in Vegetative Phase 1 that have been underneath this netting for the first 15 weeks reveal little or no infestation. We do not recommend leaving them under this netting for any longer than this because their roots can attach themselves to the netting, which transplantation to vases/collars for Vegetative Phase 2 more difficult.

Some growers also think plants can dry more easily under the netting. This is also an advantage because dry substrate (particularly the top layer) causes any eggs that may have been deposited - and from which larvae hatch - to dry out more easily. If you do not immediately transfer plants that were delivered in plugs to pots, we recommend also covering these to reduce the risk of infection. Be aware, however that the light intensity under the netting is 15-20% lower. This can be a disadvantage, but there are also some benefits to this. Due to high energy prices, we want to reduce the number of hours of assimilation lighting and to allow more daylight in during the day. It may therefore not be disadvantageous to reduce the amount of light let in on account of the netting during Vegetative Phase 1. Every cloud has a silver lining, after all! In conclusion: compartmentalisation also produces good results, i.e. using partition walls between Vegetative Phases 1 and 2. Further-

more, the release of *Stratiolaelaps scimitus* (*Hypoaspis miles*) after planting, watering with nematodes and introducing *Atheta* also suppresses potworm infestations.

Energy

The recent sharp increase in the price of gas and electricity, in combination with the energy contract you concluded, has caused almost everyone to immediately consider ways to save energy or use it more efficiently. Cooling and flowering-inducing temperatures have been adjusted downwards to values sometimes below the normal recommended levels. In the period ahead until week 34, this will not be a problem because outdoor weather conditions are generally such that it does not get too cold easily. We were also able to observe a curious phenomenon: the lighting was switched on much later in the morning and therefore more use was made of daylight. This was already the best advice we could give based on research conducted by Plant Lighting, although it was not heeded in many cases. The lighting was switched on at midnight or 2 AM. As a result, the plants had already depleted the malate by 10 AM when natural light becomes interesting. Photosynthesis efficiency was of little consequence during the day. However, it is currently being applied more widely now due to the soaring electricity prices. You can give the plants many mols a day, but if they effectively use only 5 or 6, the remainder is too much.

It is best to keep the temperature at around 27.5 or 28°C during the vegetative phase. This may result in slight delays in growth, but this will not be problematic until week 34. From week 34 onwards, it is important to raise the temperature by 0.5 to 1°C and, even more important, to avoid light



peaks to prevent premature spike the vegetative phase. Big differences of approx. 2 mols from one day to next should particularly be avoided during this phase. warm and dark environment will not produce premature spikes, while there is a risk of this occurring in a light environment. These premature spikes become visible from around week 40 onwards if this has well. Plants are more prone to this in autumn when lengths become shorter. Differences in daytime temperature should also be avoided. Phalaenopsis best when exposed to constant temperatures.

The disadvantage to exposing them to more light during the day is that the humidity can become too low. Paying attention to a moisture deficit (MD) is a good idea, in which the limit of 9 g/m³ should not be exceeded. The air will otherwise be too dry. Please realise that exposing Phalaenopsis to more light will result in a leaf temperature 1 - 3°C above the room temperature. Also, the MD of the leaf will be much higher. You have to adjust this. This becomes particularly important when, after 9-10 hours of light, depending on the intensity, the plants open their stomata to take up CO₂ because they have run out of malate. If this happens in the middle of the day, at the highest level of intensity, too much moisture can be extracted from the leaf. This will result in leaf damage. Therefore, we recommend lowering the MD or raising the RH by using your misting system to prevent too much moisture from being extracted from the leaf. Aim for an RH of at least 60%. A percentage of 65% is better and, if the light intensity is higher, 70%.

Clean water

Make sure you have ready access to enough good water for irrigation and misting. Tap water for misting causes calcium

deposits on the crop and increased Na-Cl levels in the drain water. Start diluting the basin water with water of a lesser quality in time to ensure that the average quality of that water will remain good for as long as possible. If you wait until the bottom is visible, the water will already be of a lesser quality (warmer and less clean). The problem is that this will force to switch to much poorer-quality water too suddenly. Doing this gradually will not affect the plants as strongly.

“Decontaminatin irrigation and drain water is important”

The decontamination of irrigation and drain water is important. Check your decontamination devices or systems regularly. Talk to your installer about how often this is done, and what you can do by yourself to ensure a long and reliable life for these devices. Also check Cl-values regularly. Does the irrigation water contain what you want? Neither too low nor too high? Regularly check for bacteria (colony-forming units, CFU) throughout your irrigation system and what comes out of the nozzles. Don't forget the manure bins!

Pests

As the outdoor temperature rises, so do the number of insects outside. Scouting will prevent major problems. Check for example, for Thrips setosus. These insects make V-shaped corked marks on primarily the heart leaves. There are, of course, several other types of thrips to watch out for. If it is not detected in time, they will cause more damage than necessary. So scout meticulously and intervene on time. Do not let it get out of hand!



Cymbidium cultivation info

On the northern hemisphere the amount of light per day and the temperatures can become quite high in the upcoming period. Humidity may become too low as a result. If the leaf temperature is too high due to an excess of light (= 27°C or more), the stomata will close, and evaporation and CO₂ absorption will come to a halt. The use of screening fabric or a whitewashing will result in a lower leaf temperature and more favourable humidity for the plant. Ideally, we would prefer to delay whitewashing until the longest day of the year approaches, but this might be necessary as early as in the course of May for early-flowering varieties (in August-September).

Humidification (misting or fogging) is a good solution to keep the climate from becoming too arid. If the plants are exposed to too much light and or the RH is too low for a protracted period, there is a risk of flower buds drying out in the early potted and cut varieties. If that happens,

around the end of June and July you will see young shoots where spikes should have been. Even if daytime temperatures exceed 20°C, the plants will tend to produce shoots rather than spike buds. Regularly weight the plants and also measure the drain percentage per day or per week. Also check the EC. If EC drain exceeds the EC irrigation, you are not giving your plants enough water! Also record the daylight sum of radiation or weekly average.

August to September-flowering varieties

The range of cut flowers flowering in August and September must have been exposed to daytime averages of approx. 20°C from the beginning of February until now. For potted cymbidium, this should be initiated around a month later. Growers with favourable energy contracts (and helped by the particularly sunny weather in March) will have realised this. But for those who were not so lucky, the question remains if they were able to achieve

their 24-hour temperatures. If not, flowering will be delayed until October. It to be seen what kind of weather we will have June.

“From now on, it is crucial that 24-hour averages do exceed 20°C”

From now on, it is crucial that 24-hour averages exceed 20°C. Temperatures above 20°C will spike elongation if the flower bud is smaller than 2-3 cm, and will also result in a loss of quality. In warm sunny weather, you may need to start whitewash as early as the end of May. Nighttemperatures may still be low enough, but they too far during the day. If you have an outdoor and/or a misting system, you can whitewashing. A misting system can be satisfactorily lower the daytime temperature until July. After mid-July, this will become more difficult RH increases during the night. Big differences in nighttime temperatures, particularly due to high temperatures, can cause flowers to turn red and black stigma caps later in the season.

October-flowering varieties

The varieties that will be flowering in October require the same approach as those that will be flowering in August and September flowering. Here too, maintaining the required 24-hour averages is of crucial importance. Heating may be required in cold, dark and rainy weather from June to August. Not doing this will save you money, but it will cause a delay in flowering until after 1 November. Whitewash should be applied from mid-June until the end of the month, it is has not been applied already.

December-flowering varieties

The flowering of varieties that should flower in December in time for Christmas can be delayed by very high temperatures in July and August. This delay may be prolonged if the temperatures in August and September are much lower than expected. The heating will then need to be switched on to prevent the orchids from flowering (partly) after Christmas. If the weather conditions in August and September are normal, there is no need for concern.



Valentine's Day and Women's Day

Valentine's and Women's Day-flowering varieties, also called the mid-summer range, are the easiest to grow. What's most important is that the plants keep growing all summer long. Therefore, it should not be neither too hot nor too dark. Leaf temperatures above 27°C prevent the plant from assimilating. Give your plants enough light and postpone whitewashing as long as you can. Be careful, though: if it is too dark and cold in August and September, you may need to heat the greenhouse to activate the crop. In the 2021 Newsletter we wrote: 'This is already the 3rd time that we mentioned heating. In 2020 it was totally unnecessary, but who says we will have the same summer weather? The summer of 2021 was a dark and cool, except for 3 weeks of nice weather in June. This was very different from the 3 previous years.'

April - May and late-flowering varieties

Misting will help you lower the daytime temperature on sunny days. Night-time temperatures are not the problem. The flowers will only become more beautiful with cooler temperatures. Check the plants' water consumption by measuring drain and/or plant weight. Do not remove the whitewash from the greenhouse until early July. If the weather is extremely nice, wait before removing the whitewash so that the transition will not be so extreme. The 24-hour average in August and September should be 20 - 21°C, so that the new and young shoots can continue to grow. They can be exposed to cold temperatures again in winter for flowering in spring 2024, while the higher autumn temperature in also ensures that spike development is blocked immediately for the 2023 spring flowering. If temperatures drop too low too quickly, the spikes will develop too quickly, and you will not be able to benefit from the delay at all.

Snails & slugs

Snails remain a problem, year in year out. Small snails eat roots, while larger slugs can cause problems later in the season in flowers.

"Sprinkle snail & slug killer pellets in April and May"

As soon as there is more light and temperatures in the greenhouse are higher, you see more snails emerging. Particularly on the border of substrate and air, at the base of the shoots. Sprinkle snail & slug killer pellets in April and May and again in August and September.



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Miltonia and Odontoglossum





“Innovation is
in our DNA”