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NEWSLETTER OCT 2020

2 Autumn - Winter tips for Phalaenopsis 2020

6 Cymbidium cultivation tips

Autumn - Winter tips for Phalaenopsis 2020

Summer has come to an end in the northern hemisphere, which also means an end to excessive levels of light. If there is still a peak in this respect, it can be more easily allowed in order to reach a certain daily light integral. This is permitted even in the initial cultivation stage, provided that outside temperatures are maintained and do not drop sharply in a very short period of time. This can sometimes be the case in the event of hail or snowfall and can lead to the formation of early spikes in some situations during the initial cultivation process. This is not a problem in the cooling and final cultivation stages.



As there is more moisture in the air and subsequently less misting is required. To ensure that the crop does not become too lush, the set point of mist on should be lowered to 60%. A distinct loss of moisture in the greenhouse air will occur in response to cold easterly winds or periods of frost. Because less light enters the greenhouse from outside during this period, artificial lighting will play a relatively important part in the coming months. Give some thought to preventing salinification of the top layer of your pots by increasing the hours of assimilation lighting. We advise giving them clean water on a regular basis, either 1 x per month or 3 x fertilized followed by 1 x clean water. This always gives the roots a tremendous boost and reduces saline build-up in the top layer. However, even clean water is never

completely clean for the plant in question because some of the salt in the upper layer is nevertheless dissolved into this water.

Light

We are currently in the transition from autumn to winter. This means that the percentage of artificial light is starting to exceed the percentage of natural light. On sunny days in early November the percentage of natural light can still be reasonable, but it becomes less every day. Many of us have an obvious tendency to create as much light (moles) per day as we can by switching on the assimilation lighting at night. However, research conducted by Plant Lighting and measurements performed by Grow-Watch have shown that this makes no sense.



“Percentage of artificial light exceeds that of natural light”

After about 9 or 10 hours of continuous light, the light efficiency needed to produce assimilates quickly decreases. If you were to switch the lights on at 1 AM, then it will be 10 or 11 AM in about 9 to 10 hours, which is precisely that point during the day when you get more natural light – at no cost. This means that at the very moment that you

get more natural light the plant will not be able to make optimum use of it. Therefore, it is wiser to turn on the lights later at night – at 5 AM, for example. The plant will produce more assimilates, leading to better growth. This means that you can give a lot of light until 2 PM, which can still be used by the plant. If it is too light outside, the

lights can remain switched off for a bit longer, but if it remains too dark, the lights should remain on. After 3 PM the light efficiency decreases, but so does the amount of natural light. You would then be able to give the plants artificial light until 8 or 9 PM based on a daytime lighting schedule of 15-16 hours per day.



The recent study 'Less exposure to light in Phalaenopsis without loss in production I - IV' by Plant Lighting shows that it is better to refrain from instantly exposing the plants to complete darkness after a 9 - 10 hour period of exposure to light. 60-80 PAR is better, as this will allow the 'load capacity' or 'tank' of the plants to be maximised and/or for this capacity to be used to its full potential.

“So, if you can achieve 60-80 PAR inside, the lights will not have to be switched on.”

So, if you can achieve 60-80 PAR inside, the lights will not have to be switched on.

The days will become longer from the first week in January onwards. Depending on the weather conditions (easterly wind, clear, freezing weather) the intensity of daytime light can increase. This means getting lighting peaks that are too high during the cooling phase, resulting in damage caused by light primarily between 12 noon and 2 PM. So, keep an eye on any changes in the weather.

Fertiliser

In this period, when the days are becoming ever shorter and humidity is increasing, a slight reduction in the

amount of nitrogen in the crop's feed is not a bad idea. If you are using compound fertilisers, this can be done by replacing part of your 20-20-20 (25%) formula by 7-11-27, for example. Another possibility is to substitute a few kilos of your 20-20-20 formula with lime saltpetre. When using non-compound fertilisers, the application of urea can be reduced by 25-50%. From the end of January to the beginning of February you return to the previous situation because the days will be lengthening again, and the light intensity will increase during the day.

In conclusion, it is also possible to make a few minor adjustments with regard to the EC. If the weather

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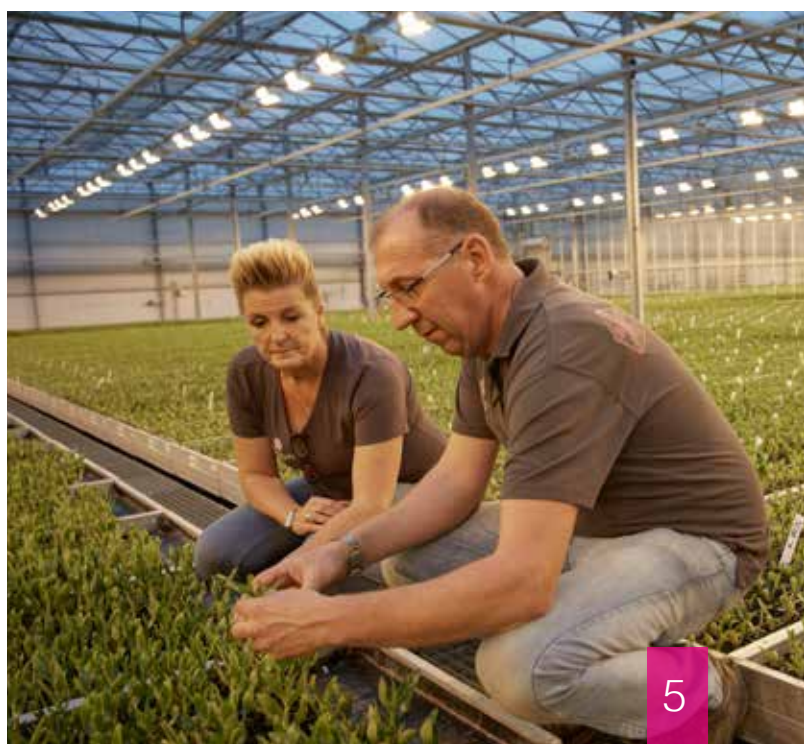
becomes really wintry – with frost and snow – and the pots are drying out quickly, it may be better to lower the EC a bit. This is also recommended because you will be watering the plants more frequently anyway, thus preventing salinisation of the pot.


Plant temperature

Plant temperature is, of course, very important in autumn and winter – particularly when it comes to gaining insight into temperature nadirs. The plants should not be exposed to strong drops in temperature, especially when switching off the lights in the late afternoon. The temperature of the pipe heating system could, for example, be increased slightly before the lights go out. You can also start closing the screening system just before you switch off the lights. Closing the windows more also helps. This prevents a temperature dip.

Ensure that the irrigation water is not too cold, particularly if you obtain it from underneath a layer of ice. The recommended temperature is at least 20 degrees C. The differences experienced by the plant should also be kept to a minimum. So, try to prevent big differences in pot, leaf or room temperature.

In general, Phalaenopsis fortunately suffer less damage from pests. However, we have regularly noticed plants infested with caterpillars and thrips as of late. Both of these pests can be easily detected through the use of capturing lamps and sticky traps. If these are checked regularly, you can intervene in time while gaining insight into pest development at the same time. Try to clean up the pests as much as possible so that you can start with a clean slate again from spring onwards. Thrips can really be a problem as they cannot be treated with pesticides once they have nestled in the flower buds.





Cymbidium cultivation tips

Forecast. You have, of course, become used to receiving a forecast from Floricultura for the coming season. Unfortunately, the COVID-19 pandemic, has prevented us from visiting as many growers as we normally would in order to gain a complete and up-to-date picture. Moreover, we have had a very long spring and summer with lots of light and occasionally rather high temperatures. In short: this has been a highly unusual year.

Heightened exposure to light leads to higher production, provided the climate in the greenhouses can be maintained with humidification. If, however, there is no fog and temperatures remain too high for a prolonged period of time, this will lead to a delay in flowering. This is also experienced in the very early varieties that are currently in flower. The question is whether or not Christmas flowering will be delayed due to the change in the weather in north-western Europe at the end of September. This can lead to days that are too overcast and too cold, which results in delayed development. Moreover, the question with regard to the mid and late flowering season is how the plants will respond in terms of production after

two extremely hot summers. In conclusion, the area under cultivation is shrinking so much that it also affects statements about anticipated yield. It is therefore difficult for us to make any significant statements about this at present, despite our extensive experience.

Early varieties

Plants due to flower in September and October 2021 will be subjected to their cooling phase in November.

The average 24-hour average daytime temperature should be around 12½ and 13°C for a period of 90 to 100 days. The plants will have to be cleaned and spaced wider apart at the beginning of this cold period. This

must be finished at least one month before the temperature is increased. The 24-hour average daytime temperature should be around 13°C (specifically: 13 -14°C during the day and 11 -12°C at night). In extremely cold weather, the temperature can be lowered temporarily – for up to 2 weeks at most – by a few degrees as an energy saving measure. This can be reduced by 7°C per 24-hour average daytime temperature. This may, however, be too low for some varieties. Ensure a sufficiently active climate, no matter how low the temperature is. The plants must be able to keep evaporating and taking up water.

At outside temperature of 12°C and higher, the crop will have to be



activated by means of extra ventilation and ensuring that the pipe heating system is kept at a minimum temperature for 1 or 2 hours in the morning. An excessively short or warm cooling phase results in lower and also later production. In addition, the crop's flowering period will be much longer, which will adversely affect the cultivation schedule for the following season. During the cooling phase, the plants should be given clean water or a maximum of 0.25 EC. Always check the drain for EC, pH and quantity!

“Excess moisture must continue to evaporate.”

From early to mid-February, the average daytime temperature should rise to 20°C. You can start one to two weeks later if necessary. It is important, however, that the desired overall temperature is achieved. If you are 'lagging behind' because temperatures are too low, you can catch up by raising the 24-hour average daytime temperature from 20½ - 21°C and spreading this out over a longer period

of 3 months. However, maintaining higher temperatures in a shorter period of time is undesirable because it will lead to a loss in production.

This will also result in dehydration of the spike buds. In addition to this, the plant will produce new shoots. Raising the temperature too early in January can be detrimental to some varieties, considering that a plant's energy consumption will exceed its production at higher 24-hour average daytime temperatures on short and more overcast days. This causes the nodes from which the spikes should have grown to dry out – which results in shoots. Halfway through February there will be plenty of natural light.

A perforated anti-condensation film screen promotes a higher plant temperature in the period from January to March, particularly in cold weather. It is important that the windows are opened very gradually on sunny days, to prevent temperatures from rising excessively. Close the windows in due time halfway through the afternoon to 'trap' the thermal energy and, in doing so, save energy. You can do this as early as 3 PM at

this time of year. Keep a close eye on the 24-hour average daytime temperatures achieved in different periods of the season.

“Close the windows in time.”

Christmas varieties

The spikes for Christmas are tied up and screwed in. Make sure it does not get too cold in the greenhouse in November and December to prevent Botrytis on the flowers or those red spots on the top of the buds that can sometimes be seen. This mainly happens as the result of excessively cold nights. However, we have scarcely experienced this in the last few years.

It is important to pay close attention to water consumption in the coming period. There are cultivars that flower around Christmas and absorb a lot of water during their spike elongation phase. If you are a 'dry' grower and the weather becomes sunny, you will need to add another drip irrigation round to prevent bud blast. However, if the weather remains mild and humid, and you are a 'wet' grower, it is better to skip a round of irrigation to



“Paying close attention to water consumption is important in the coming period.”

preserve the roots of some varieties. Measure the amount of irrigation water and the drain each week, and check the drain EC for individual varieties. In addition, the EC drain will tell you if this is rising. In that case, the plants absorb less nutrition – or perhaps even none at all. If this is the case, reduce the EC! This will keep the roots in better condition. The water must be at least 12°C.

After flowering, the Christmas varieties will also have to be cleaned and, if necessary, spaced apart or moved. This must be done before Valentine's Day. If you do this later – in March, for example – this will result in a delay in flowering for Christmas 2021 or even a loss in production.

Spacing the plants wider apart in due time ensures that they will be better acclimatised before it becomes too hot and too dry. An RH that is too low leads to dehydration of the spike buds. Water uptake will

always be less than normal – up to 50% – during the first 14 days after moving the Cymbidium plants. From the beginning of April, the 24-hour average daytime temperature should also be 20°C. In cold or otherwise poor weather it will be necessary to heat the greenhouse.

Mid-range varieties

With regard to the mid-range varieties, the cold build-up for next year's flowering already takes place during the period of branch elongation and flowering that starts in November this year. This happens in an almost natural way. Easter will be on 4 April in 2021. This means that you have to decide in November whether you want your crop to flower before Easter, or more towards Mother's Day.

Flowering before Easter means raising the temperature as high as possible – but not too high. If you don't want to risk this and or you want to save on heating costs, it

may be better to postpone flowering until Mother's Day, in which case you may have to be work in cooler temperatures. Ensure ample evaporation each week: at least 3 litres/m²/week.

Late varieties

With regard to late varieties, daily averages of 20°C to 21°C are still maintained to block spike elongation. At the same time, the new shoots which have split off are encouraged to grow before flowering in spring 2022. These higher temperatures for flowering in June and July must be maintained until Christmas. Some growers even keep this up until the beginning or middle of January.

However, if you want to achieve flowering in June and July it is important that you can get daytime temperatures that are too high to drop during that period, using at least a good misting system. Otherwise it will become too hot and the quality will suffer during flowering.

The gradual drop in temperature before the cold treatment and the delay in flowering (as a combined action) must be spread out over a period of 10 to 14 days. The temperature can be very cold in this case (8 – 10°C) but this depends on the outdoor weather conditions and the humidity. 10°C is possible in case of frost. Evaporation is more than sufficient under those circumstances.

If it is too warm for the time of year, you will nevertheless need to switch off the pipe heating system to the minimum temperature each day for 60 to 90 minutes, in addition to ventilating profusely, to activate the plants. In the late section, the crop can still take up lots of nutrients until at least mid-January (e.g. 0.7 EC irrigation and 0.4 EC drain). If the EC drain increases, cut the EC by half immediately. Keep monitoring each week on EC and drain pH, making sure that the plants evaporate an average of approximately 3 litres/m²/week. This is almost as much as a whole day in summer, on average!

Conclusion

The humidity is often too high in the period leading up to Christmas. Ensure sufficient ventilation and an active climate. Next Generation Greenhouse Cultivation offers good opportunities to achieve a sufficiently active climate without too many fluctuations in climate and with a more stable plant temperature.



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Phalaenopsis, Cymbidium
Miltonia, Odontoglossum

