



Floricultura  
ORCHIDACEAE

## Good, clean water

Of great importance in the cultivation of orchids

### Fungus in orchid flowers

From mid-July until early September there's a risk of Botrytis or sooty mould in the flowers of Phalaenopsis, and also those of early-flowering Cymbidium. How high this risk will be will depend on the weather.

Botrytis occurs in the event of high outdoor temperatures in daytime followed by cool nights, especially if there is a large difference between the day and night temperatures. The lower outdoor temperature results in more radiation, causing the temperature of the flowers to drop below ambient temperature. The temperature of white flowers in particular may then be 0.5 - 1°C below ambient temperature, causing condensation to form on the flowers.

When the RH is 99% for six hours the risk of Botrytis will be 100%! The flower temperature will drop below dew point. If you measure the temperatures of your plants' leaves, bear in mind that the flower temperature will be the aforementioned 0.5- 1°C lower. The flowers will usually project above the leaves, and will consequently cool sooner. What's more, flowers with dark colours will cool a little less than white flowers, which is why the problems are usually observed only in white flowers.

The solution is to make more use of the heating above your crop and to reduce radiation (i.e. cooling) by closing one or two screens almost completely. There will be a greater and earlier risk of sooty mould in Cymbidium because of the sugars occurring on the spikes and flowers, which act as a breeding ground for this fungus. The RH and temperature are influential factors in this case, too. It's a good idea to use an effective product to promote drying after you have watered your plants.

### Disinfection using chlorine

Chlorine is one of the products that is used to reduce the risk of fungus and bacterial infections in Phalaenopsis. This will not usually involve any problems if the values aren't too high.

Growers of other orchid species may be tempted to do the same in their crops, but we're not in favour of that - and with good reason, as was recently confirmed by the results of tests in which a chlorine product, in this case chlorine dioxide, was used to treat young Miltonia, Nelly Isler and Odontoglossum hybrids in 52-hole trays. The plants showed scorched leaf tips and stunted growth.



Without chlorine above,  
with chlorine below

### Clean water

Good, clean water is of great importance in the cultivation of orchids – especially the species favouring warm conditions such as Phalaenopsis, but also in warm parts of the season such as summer.

First of all, the oxygen content of warm water (above 22°C) rising in temperature will decrease per degree Centigrade, to reach such low levels above 25°C that the plant roots will receive insufficient oxygen, increasing the risk of fusarium and other root problems.

If your basin contains too little water and/or is not regularly cleaned (at least once a year), the water that you give your plants may cause them to die.

Another problem is the stagnant water remaining in pipes when crops are watered, say, once every 6-7 days. That water will become (too) warm, especially in pipes at the top of a greenhouse, and the chlorine will become ineffective after a few days. Under such conditions all kinds of germs may increase too much in concentration, so we advise you to let the first water flow away for a while before irrigating your plants.

We have carried out a lot of analyses every week in the hope of identifying the cause of our plant losses. We discovered that, in some cases, the germ number, expressed in CFU/ml, in disinfected fertiliser tanks and/or pipes started to increase after 7-14 days, resulting in far too high values after three to four weeks. We therefore advise you to take CFU (Colony Forming Units) samples in addition to DNA samples.

We asked various business relations to have their fertiliser tanks analysed too, and many of those tanks were likewise found to be contaminated. This was rarely the case in A-tanks, which tend to be acidified. Experiences have shown that lowering the pH to 4.5, for example using nitric acid, greatly reduces the risk of contamination.

So we advise you to pay attention to this aspect, arrange for analyses to be performed, and regularly clean your fertiliser tanks and storage tanks.



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## Exhibition Hortitec 2017

From 21 until 23 June Floricultura was once again represented at the Hortitec in Brazil – a horticultural fair comparable with the IPM in Essen, only many times smaller. This year the fair attracted a total of 30,000 visitors. Marco and Camila (Floricultura’s location manager for Brazil) were present at the fair to talk to customers.



## Beginning of construction Floricultura Brasil

After heavy rain in January, February and early March, work could begin on the construction of Floricultura Brazil on 28 March. In six phases a greenhouse will be built in an area of 4 hectares. If everything goes according to plan, phase 1, involving an area of around 4,000 m<sup>2</sup>, will be completed by the end of this year, so that it will be able to accommodate the first plants in 2018. Unfortunately the month of May saw far more rain than usual – around six times the usual amount in torrential downpours. This caused a few weeks’ delay in the project.



The greenhouse is being built by local builders and will be equipped with everything that will be needed to grow good plants in Brazil, i.e. heating, pad and fan cooling, a climate computer, screens and an irrigation system. Unlike in the Netherlands, the greenhouse will be heated with a wood-burning stove and cooled with a pad and fan system. The latter involves the use of fans to suck dry, warm outdoor air through a wet cardboard wall.



A Dutch company is going to build a container system in the greenhouse.

In the future we will be able to offer our customers in Brazil acclimatised plants of high quality from our new branch in that same country. The new greenhouse is scheduled to open during the Hortitec 2018.

## Agenda

Royal FloraHolland Trade Fair  
IPM Essen

7, 8 and 9 November 2017

23 - 26 January 2018

California Spring Trials

14 - 19 April 2018



Breeding  
your  
success



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