

Newsletter year 35, No. 1

# BREEDING BUSINESS

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Floricultura®

ORCHIDACEAE

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## Cymbidium in the summer!

### A good summer climate leads to better quality

Our last winter was once again very mild, just like the two winters before it. Last season (2015-2016) there were no observable consequences in terms of production. However, as we already wrote in our newsletter of last October, production of the very early orchids was a bit lower than usual, and it has continued to decrease since then. Almost all growers were faced with lower production until Valentine's Day. The production of the varieties of the middle and late ranges remained at the usual level. The total numbers of sold plants are actually lower, but that is largely attributable to the shrinking acreage.

The mild winter, and certainly also the dark autumn that preceded it, have affected the quality of the shoots and eyes that are now being produced. If such conditions are then followed by fluctuating spring weather (e.g. beautiful summer weather in week 20) there will be a risk of bud desiccation in April-May. The middle and late varieties have on the contrary benefitted from the beautiful autumn weather and their production is going well, though it is also a bit lower than in the past. Prospects for production in the coming season are good, at least up to and including Christmas. The shoots were formed in a

phase of fine weather. Growers were more aware of low temperatures and took the necessary measures so, barring any unforeseen circumstances in the coming months, things should go very well. Because of the smaller acreage, we'll have to wait and see whether the overall supply will be lower, the same or even higher than that of last autumn.

#### Ultra-early varieties

Conditions of the varieties that flower early, in August-September, must be accurately controlled the coming months. The 24-hour average temperatures must not exceed 21°C. It's best to stick to 19.5-20.5°C. Temperatures of 21°C and higher will hamper spike elongation if the spike buds are smaller than 2-3 cm, and will also lead to poorer quality. So, depending on the weather conditions and your technical resources, e.g. whether you have external screens and/or a misting system, you will have to whitewash your greenhouse at the end of May already. An effective misting system will enable you to lower the daytime temperature until sometime in July. The night temperatures will be low enough until then, but they may become too high after that time, and they cannot be lowered by misting. You can then still use misting to lower the daytime temperatures to realise the recommended

24-hour average temperatures. Major differences between day and night temperatures may cause red flushing and black pollen caps in the case of some varieties. Bear in mind that pollen is formed about nine weeks before the plants flower. Plant temperatures of more than 25°C and relative humidity of less than 65% may cause problems in the formation of the pollen, resulting in red lips and black pollen caps when the plants flower.

#### Very early varieties

The conditions recommended for the varieties that flower in October are the same as those for the ultra-early range. Especially important is to ensure the recommended 24-hour average temperatures. If it is cold, dark and rainy for several weeks in succession in June, July or August you will have to switch on your heating. You may think switching on your heating will cost you a lot of money, but failure to do so will cost you a lot more. Your plants' flowering will be postponed until after 1 November, and your orchids will then fetch lower prices, so there's no sense in trying to save on gas. Greenhouses in which very early varieties are grown must be whitewashed around the longest day, depending on the weather around that time.

*"gemiddelde  
etmaaltemperatuur  
is bepalend"*



### Early, Christmas varieties

Whether orchids will flower around Christmas time is largely dependent on the temperatures realized after July. If the weather is cool in August you will have to switch on your heating to ensure you remain on schedule. Last year the plants flowered on time thanks to the good weather in September and October. But that's not always the case, so keep a close watch on your 24-hour average and average week temperatures to avoid delays. Extremely hot weather in June and July may delay flowering. In such cases, you must ensure slightly higher temperatures in the final cultivation phase from August onwards to prevent the risk of some of your orchids not flowering until after Christmas.

### Varieties of the middle range (Valentine's Day – Women's Day)

Ensure plenty of light and don't whitewash your greenhouse too soon. Use heating to keep your plants active if August and September are dark and cold. That may seem like something odd to do in that period, but in fact the heating will lead to a better quality and help you remain on schedule. And a

better, more uniform quality and production according to schedule mean less sorting, and less labor costs.

### Late varieties

Greenhouses in which late varieties, flowering in May/June, are grown should be whitewashed once again if the initial coating has worn a lot, especially if the weather is very sunny. Misting will keep the temperature low enough in the daytime, ensuring plants of a good quality. Check the plants' transpiration by measuring the amount of drainage and/or the plants' weight. The whitewash of greenhouses in which very late varieties are grown should not be removed until early July. Wait for a while if the weather is very good, to avoid a too strong transition, but do try to remove it before mid-July. Follow the same strategy as for the varieties of the middle range in August and September by ensuring the recommended temperatures. So, switch on your heating if necessary! IR (infrared) leaf temperature meters and PAR meters show the effect of whitewashing and screening on the climate in a greenhouse.

### Slugs and snails

Small snails feed on roots while larger slugs may cause problems later in the season, from March onwards. Snails and slugs multiply at a tremendous rate after a phase of warm, moist weather. Preventive control is best, so make sure your paths are clean and free of weeds. Scatter slug/snail pellets in April/May, and again in August/September. In the event of severe infestation, scatter pellets every three weeks according to the dosage instructions. Apparently, special bait boxes are currently being developed for slugs and snails. Practical experiences will have to show whether they'll be a welcome addition to the current range of control products.

### Red spider mites

Red spider mites may appear in great masses suddenly during warm, dry weather in spring,

especially if crops were already affected by them in the previous autumn. Regularly scout your crops. Biological control may be effective subject to the following two conditions:

1. A moist climate in which the predatory mites will feel happier than the red spider mites
2. Meticulous, regular scouting to determine whether more predatory mites should be introduced and/or local infestations should be chemically controlled.



## Sciara causing ever more problems

### Damage caused by feeding facilitates fungus infections

Growers of various ornamental plants are familiar with the fungus gnats sciara. The gnats are also known to cause problems for, for example, people who breed beetles as a hobby. This we're mentioning here to indicate that it may be instructive to look beyond the boundaries of our own specific field of activity. The sciara have a short lifecycle, enabling them to form large populations within a short space of time.

The larvae cause damage by feeding on the soft parts of plants – root tips, the bottom parts of plants and leaves at the boundary between soil and air. This causes direct damage in the form of inhibited growth or a plant's death, but the wounds also facilitate various infections by allowing fungi to enter the plant. The glassy, transparent white larvae are usually 2-4 mm long, though some are longer: 5-8 mm. So they are quite a bit smaller

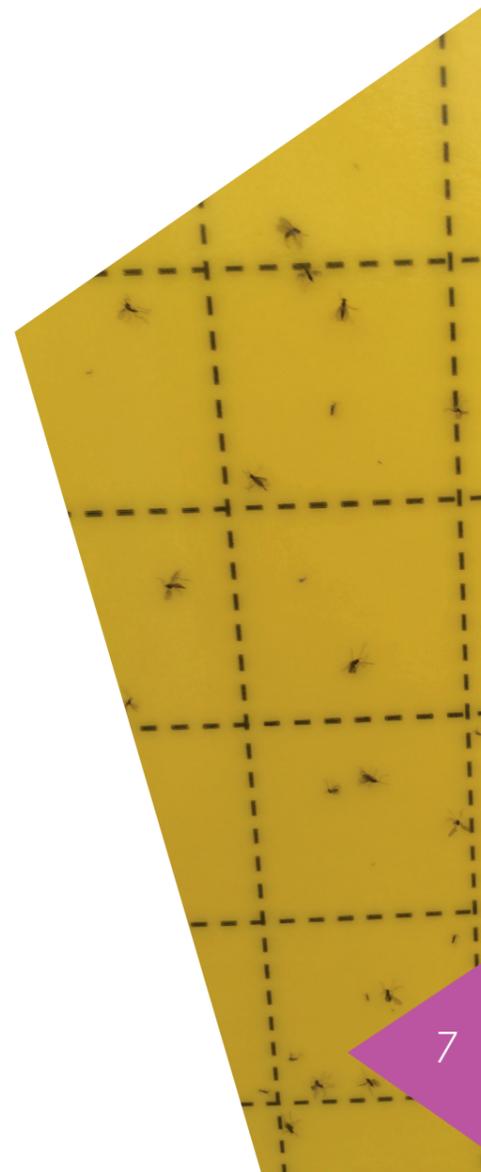
*"mug is een grote verspreider van ziekten"*

than the pot worms with which we are all so familiar; they may grow to lengths of more than 1 cm. The sciara larvae are shorter and more compact, with a black head. They are very mobile, especially at high temperatures. The larvae live for about two weeks. Adult gnats are black, 3 to 4 mm long and prefer humid surroundings. Female gnats may lay between 200 and 1,000 eggs, depending on the species. The damage caused by their feeding will cause young and weak plants to weaken further, wilt and – in severe cases – ultimately die because the roots of the affected plants are no longer able to absorb water and nutrients. Sciara eggs, larvae or pupae may be contained in bark, coco or other substrates before they are used in cultivation. There is a greater risk of damage if such substrates are sterilized before being used in cultivation because the sterilization completely unbalances the substrate, granting the sciara free play. Some substrate suppliers

add antagonists to their substrates. Precisely what effect this has on sciara is difficult to say, and will presumably depend on such factors as the substance used to disinfect the irrigation water (chlorine, copper, hydrogen peroxide, etc.), the type of irrigation water and its pH, the type of dosed fertilizers, the amount of algae/moss, etc.

#### Tiny intruders

Sciara have so far not caused any major, persistent problems in the cultivation of Phalaenopsis in pots or propagation trays, presumably because the bark on top of the pots is too dry to offer the larvae a favorable climate. The greatest problems were encountered in setting up new nurseries, when large quantities of bark were introduced into a greenhouse along with young plants. The problem was then often solved through cyclic treatment of the greenhouse and/or the introduction of Hypoaspis and strategic scouting using insect traps. Larvae can also be detected by placing slices of potato on top of the substrate and counting the number of larvae



on top of and underneath the slices after four hours. The past few years the fungus gnats have been causing more problems in plugs, ranging from feeding on a single root on top of the plug to damage to all the root tips. The latter damage inhibits growth for several weeks, with an increased risk of the plant dying. New roots must be produced and/or branched off, and this demands energy at the expense of growth and vitality aboveground. The amount of/susceptibility to damage depends partly on the type of plug used, as the material, composition and moisture content of plugs may vary considerably.

Increasingly finer, wetter mixtures are being used in the cultivation of orchids in pots, including coco coir and coco peat. They help the plants to grow faster, but they also offer more favorable conditions for the development of sciara.

Apart from damaging the roots, often in the form of a kind of scraping along the side of root tips, the gnats may also spread fungi, viruses and bacteria. The damage caused by sciara is less coarse than that caused by pot worms. The latter often looks as though bites have been taken out of root tips.

#### **Predatory mites**

Predatory mites or nematodes can be used for biological control. Research has shown that the continuous introduction of a lower concentration of predators is more effective than a single, high concentration. Both types of predators feed on the gnats' larvae without damaging the plants. Predatory mites are of the species *Hypoaspis miles* or *Hypoaspis aculeifer* and feed on the sciara eggs, larvae and pupae. Besides the small sciara larvae they also consume thrips pupae, nematodes and springtail larvae.

Insect parasitic nematodes are so tiny that they can only be observed with a microscope. The nematodes that feed on sciara larvae are of the species *Steinernema*, the most commonly used being *Steinernema feltiae*. These nematodes also occur commonly in nature in the Netherlands. For effective control, it is important to carefully check the quantity and quality of the applied nematodes in the same way as you would check and monitor the quantity and quality of your fertilizer. In the past (other) nematodes have also been used to control slugs and snails, but often

with disappointing results. Residues of previously used control products were found to be very harmful, however thoroughly the tank and pipes were cleaned. So, it is advisable to use a separate, new tank. Biological control is most effective if the sciara population is still small, so start scouting your crop and inspecting your insect traps at an early stage. In the event of a severe sciara infestation it is advisable to start with chemical control and then switch to predators to control the reduced population. Very good results may then be achieved with a combination of predatory mites and insect parasitic nematodes.



## News from our range managers

It won't have escaped your attention that a lot has been going on at Floricultura lately. Our aim is to keep you optimally informed about our range.

We look forward to welcoming you and exchanging thoughts with you in our completely refurbished reception area during our Flower Trials. As usual, you will then be able to view a large proportion of our range in flower in our breeding greenhouse along Strengweg.

The following varieties from our new range will soon become available. Some of them may be of interest to you.

### Soon available in our range:



**Tigris®**

Variety code	332293
* Flowersize	9
† Spike length	60
▣ Pot size in cm	12



**332691®**

Variety code	332691
* Flowersize	10
† Spike length	60
▣ Pot size in cm	12



**342728®**

Variety code	342728
* Flowersize	11
† Spike length	60
▣ Pot size in cm	12



**Penny Lane®**

Variety code	212849
* Flowersize	5
† Spike length	40
▣ Pot size in cm	12



**243851®**

Variety code	243851
* Flowersize	5
† Spike length	50
▣ Pot size in cm	12



## Floricultura expands in the US

We have recently expanded our branch in the US with another two hectares of greenhouse area. Since 2011, Floricultura Pacific, our American branch, has been producing orchid propagating material in Salinas, California.

The North American orchid sector is rapidly becoming ever more professional in response to an increasing demand for orchids in the US. Requirements do differ from those in Europe: whereas almost all the propagating material is sold as cuttings in Europe, there is also a demand for plants in 12-cm pots in the US. The expansion of our branch in Salinas contributes towards the sector's further professionalization, making it easier for it to meet the American growers' requirements. The extra greenhouse area enables Flori-

cultura Pacific to supply both cuttings and plants in 12-cm pots, ready for cooling or with spikes. We hope that this move will further increase our market share.





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# Agenda

- FlowerTrials - 13 - 16 June 2017
- Klaas Schoone Memorial Award - 14 June 2017
- Hortitec - 21 - 23 June 2017
- Trade Fair Aalsmeer - 8 - 10 November 2017

**P.O. Box 100 1960 AC Heemskerk**  
**Cieweg 13 1969 MS Heemskerk**  
**The Netherlands**

**orchids@floricultura.com**

**T: +31 (0) 251-203060**

**F: +31 (0) 251-203061**

**[www.floricultura.com](http://www.floricultura.com)**

