Go Green, Stay Green----with ENVY!

Every Autumn and Spring Show, large numbers of cattleyas, dendrobiums, oncidiums and other genera are brought in for sale by club members.
Yet, despite the considerable quantities of Phalaenopsis plants that club members purchase each year from commercial nurseries, very few, if any, of those plants ever appear on the sales benches. There has to be a reason. Yes, it is more difficult to vegetatively propagate phalaenopsis and this may be part of the explanation. However, my experience suggests that the prime reason is more closely associated with the susceptibility of these plants to both bacterial rots and cold stress…….each year the number of plants purchased is balanced by the number of plants that die!! Consequently, few ever become spares that can be presented on the sales bench. Both bacterial rots and cold stress can be controlled by using the correct cultural techniques…..attention to watering frequencies and timing, adequate sunlight, good air movement, timing and frequency of re-potting all influence growth and the chances of survival. Copper-based sprays, such as Kocide or copper sulphate, can assist in the control of bacterial rots. However, each winter we are faced with the fact that some orchids, if unassisted, will succumb to cold stress. This is particularly so of phalaenopsis and those dendrobiums and vandas that have their origins in the lowland tropics. If we want to grow these types of orchids we should be aware that the environment in which we intend to grow them must simulate that of their origins. For phalaenopsis, night-time minima below about 8 degrees C can result in mesophyll tissue collapse and subsequent death of the plant. Winter night-time minima in Rockhampton can be as low as 2-3 degrees with quite devastating consequences for any unprotected, cold-susceptible orchids. Before the start of winter, most successful growers of cold-susceptible orchids wrap their orchid houses in plastic to minimise wind chill and retain heat within the orchid house. In some cases, a heat source is provided to ensure that temperatures do not fall below the critical minimum. Several growers provide additional protection by using the anti-transpirent spray, Envy. I have not seen any definitive studies on orchids that demonstrate the effectiveness of Envy in reducing losses associated with cold stress. However, experienced orchid growers who use the product claim that it assists in providing additional protection from cold.

According to AgroBest Australia, Envy is a non-toxic polymer concentrate that forms a semi-permeable, bio-degradable film that reduces transpiration without affecting photosynthesis. It is claimed to increase cold tolerance by up to 4 degrees C and to reduce transpiration losses by up to 50%. Thus, when night-time temperatures are expected to fall below about 5-6 degrees C, Envy alone may not provide sufficient protection to prevent damage from cold stress. To be on the safe side, the temperature in the orchid house must be maintained above about 6-7 degrees C if damage from cold is to be minimised. The take home message is that orchids that need to be grown in a warm environment will still require a warm orchid house even if Envy is used. Like most chemicals, Envy is an aid to good cultural practices, not a substitute. Local practice is to apply Envy at the start of winter at least 24 hrs before a cold snap is expected with repeat applications about every 2 weeks until the threat of cold weather has passed. For maximum protection, Envy must be applied to the entire plant….both surfaces of leaves, all pseudobulbs and any exposed roots. It should be applied to allow sufficient time for the film to dry before night-fall. Any spray equipment must be thoroughly washed after use to prevent clogging of nozzles.

Because Envy reduces water loss through transpiration, it is a very useful aid in minimising losses of newly-deflasked plants. Most losses of newly de-flasked plants are associated with dehydration or the effects of over-watering in an attempt to prevent dehydration. Plantlets that are dehydrated soon wither and fail to develop secondary roots that are essential for growth. Over-watering favours the development of the damping-off fungus, Pythium. Either way, an empty compot is the result. Envy helps to reduce dehydration and the need to over-water. If you are not already using Envy when you de-flask, I suggest that you try it.

Unfortunately for any interested readers, by the time this article appears in the Newsletter winter should be almost over and most of the cold-damage will have already occurred. However, despite global warming, winter will arrive again next year, same time, same place and maybe we will be just that little bit better prepared for its effects next time. Perhaps your orchids will be the *envy* of us all!!!

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