



**St. Augustine Orchid Society**

[www.staugorchidsociety.org](http://www.staugorchidsociety.org)

## **CYMBIDIUMS**

### **What Triggers and Supports Flowering?**

By [Harry McElroy](#), [cymbidiuman@msn.com](mailto:cymbidiuman@msn.com)

The environment needed to trigger flowering is fairly exact in many species of orchid. Phalaenopsis give us a good example of an easy to identify flower trigger, "temperature change". Phalaenopsis growers often let their growing areas cool to 45 degrees in the cool bright days of fall for a few nights and then keep the temperatures above 55 degrees F for the rest of the year. The few cool fall nights trigger the spring flowers. The temperature drop trigger is useful to commercial pot plant producers. One nursery I visited had an area which could be cooled to 45 degrees in midsummer to trigger flowering. Imagine a huge nursery with plants on conveyor belts moving through an 80 acre greenhouse with smaller plants at one end. A cool room near the middle and a warm area after the cool for flower spikes to develop. At the very end of the greenhouse is a shipping and loading area where the plants with spikes are prepared and loaded aboard tractor trailer trucks at the rate of 5 trucks loads a day 365 days a year. The fast growth rate and the ease of triggering flowers is why Phalaenopsis are a huge success as pot plants due to the ability to control flowering in this way.



The flower triggers for cymbidiums are much more complex and less easy to control. In addition, flowers must experience the right conditions from spike initiation to flowering. If conditions are not right after the flower spike begins then the developing spike simply withers and dies sometimes without even being found or even later the buds simply turn



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brown and fall off. In the United States most cymbidiums are grown where temperature and light conditions are similar to native habitats. Enthusiasm for the species rests with many hobby growers in these areas. Specialized cymbidiums which grow in warmer climates and are less demanding in warm climates have only a small but growing number of enthusiasts.

In Europe, Cymbidiums are prized as cut flowers. Flowers which appeal to Royalty are easy to sell and a lot of effort is put into meeting the demand. The U.S. economy and culture demands "pot plant" grade plants. The European culture demands high quality cut flowers. The effort needed to understand and furnish the cymbidium's needs are an economic necessity in Europe. A hobby grower often cannot afford the close control of the professional greenhouse grower in Holland but studying and learning their techniques does teach us what we can do too enhance our success.

Areas we need to control are light, temperature, air movement, water and nutrients:

- ★ **Light** - I like to say that cymbidiums should have 70% light but there are a lot of species of cymbidium so this is just a starting point. They should have a slight yellow cast and not be burned. If the leaves feel hot to the touch or are getting brown then it is too much light possibly without enough air movement or water. My own plants get too little light, are dark green with a lot of leaves for the number of flowers. They will do better with more light. I need to change my light levels. Trees are a problem for me.
- ★ **Temperature** - Many cymbidiums will not flower without a day night temperature change of 20 degrees F and the best temperature swing between 75 and 55 day to night in July and August. We need Warmth Tolerant and Heat Tolerant Cymbidiums in areas without temperature changes like this such as Florida, where selection of plants becomes much more important. I have cymbidiums that grow fine in Florida. I find that it does help the plants grow and flower better if I mist the plants lightly in the evenings when it doesn't rain. Cool fall conditions are not a main trigger for most cymbidiums but there are exceptions. The species hookerianum requires a cold spell or even a freeze to bloom as do some of its hybrids.
- ★ **Air Movement** – Air movement is very important. Plants placed outside in the open in Florida should get plenty of air movement. It is important to space plants so that air circulates around them. The old "Cat Test" is a good one. A cat should be able to walk easily between your cymbidiums with needing to push leaves around. (I have too many – another problem area in my collection).
- ★ **Water** - Cymbidiums should never dry out completely but never be soggy either. The evening water mist I give my cymbidiums is all they get from April until it heats up in June. I mist in July and August both morning and night unless it is raining a



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lot, turn of the water if you are experiencing a lot rain. Usually in late September early October I turn the mist system off and revert to manual control of the mist/water system. In the fall and winter I water only when I think the plants need it. Note: that watering changes go with fertilizer changes. I use a very durable potting mix due to the rain and wet conditions my cymbidiums grow in.

- ★ **Fertilizer** – Cymbidiums cannot be “fertilized into bloom” but I believe the correct application of fertilizer can help a cymbidium bloom. It is important to say that the first four points above are more important than fertilizer. The variation in fertilizer that cymbidiums get in nature was explained to me by an expert and I think the explanation helps understand what I am doing.

Cymbidiums in nature grow on mountain slopes on the south side of the Himalaya mountains. This area of the world is uplifted seafloor due to the Indian Ocean Tectonic plate colliding with the Asian Continent. It is also a monsoonal region which is very wet in the spring and summer and much drier in the fall. Cymbidiums grow on the forest floor in forest litter in some cases on trees. (Cymbidiums are good at catching leaves and litter). During the rainy season the roots are exposed to relative high nitrogen levels from the falling rain and decaying plant material. Later in the summer rains turn to fog and mist that only keeps the plants slightly damp. The roots reach deeper under the decaying vegetation to the earth underneath and a lowering of nitrogen and rise in potassium and calcium is encountered by the roots during the drier parts of the year.

The Dutch growers mimic nature by feeding accordingly with fertilizer injectors. Their [website](#) lists all the mixes they use, but I don't own a fertilizer injector so this is what I do with my fertilizer program.

January or February, rate for each gallon pot:

- 1 tbsp dolomite lime/gypsum/seashell mix (1 part Lime, 1 part Gypsum, 1/2 part Seashell)
- 1 tbsp 18-6-8 plus Micro's 6 - 7 month time release Nutricote
- Sprinkle of Deadline Snail Poison

June, rate for each gallon pot:

- 1/2 tsp 18-6-8 or other water soluble fertilizer @ 100ppm N
- 1 tbsp dolomite lime/gypsum/seashell mix (1 part Lime, 1 part Gypsum, 1/2 part Seashell)
- Sprinkle of Deadline Snail Poison

Mid to Late September, rate for each gallon pot:

- Hi K fertilizer (4-8-11) at 200 ppm K (Potassium) (Warning :Do not use Muriate of Potash)
- Sprinkle of Deadline Snail Poison

The Dutch website reference is <http://www.floricultura.nl>, when you get to this web site select “Culture” at the top of the page then “Downloads”.