

Tetraploid vs. Diploid Cattleyas

from Carter & Holmes Orchids Facebook Page

We have touched on this topic before, but we wanted to give you an update using two species currently flowering in our collection. In each set of photos you will see the normal diploid (2N) version of a specific plant on the left, versus the tetraploid (4N) mutation on the right. All three of these examples are the product of ploidy mutation in the mericlone process. (Please be aware that we have made these assumptions on our experience and what we have learned over the years. We have not had the opportunity to offer them for lab testing.) Mutations can appear in different ways, depending on the plant and also the clone process. Sometimes colors are affected such as with Bc. George King 'Southern Cross' which has shown stability and can be bred with. Sometimes peloria occurs in which cases the lip coloring/markings will be mimicked onto the lateral petals. This is not always a stable mutation in breeding. Watercolor markings or streaks in color such as with many mass-market Phalaenopsis are mutations as a result of over-cloning. These can vary from mericlone to mericlone, or even from year to year on the same plant. The mutations we are usually happy to experience is when a batch of mericlone plants produces a tetraploid, which in simple terms means it is a super plant, with an extra set of chromosomes. You can see the larger overall size difference on the mutation including the column and the stem. Also, greatly increased is the thickness of the segments. The substance is almost twice as heavy as the original which usually help to flatten the flower and provide better form. Plant habit and foliage are affected too. Foliage will be much thicker and usually slower growing. Sometimes the 4N plant you are praying for will be the last of the crop to bloom. But of course, the best things are worth waiting for. Also, an obvious mericlone mutation can carry it's own varietal name, and can be awarded in it's own right.

