A new heat wave—
Winter Symposiums

Editor's note: If it is not a contradiction to say so, Winter symposiums are becoming a hot item. In 1991, Region 10 conceived a plan to deflect the grey days of winter by gathering together in the name of daylilies. Chattanooga was the site and over 100 bloom-starved members attended from in and out of the area. Slide shows, speakers, and good fellowship made up for the lack of tour gardens in February. So successful was the first outing that it has been repeated in 1992 and 1993.

Meanwhile, up in the frozen North, a somewhat different symposium was organized. Region 2 wanted a meeting targeted for hybridizers, particularly those breeding daylilies suitable for Region 2 winters. So it was that a group met in late February this year, in Michigan City, Indiana, two weeks following the Chattanooga gathering. This new meeting was also very well received, and plans are being made to expand in 1994.

The following is a brief extract from a subject discussed by Oscie Whatley at the Michigan City Symposium.

Identifying CONVERTED TETS

Text and sketches
by Oscie Whatley, *Missouri*

Converted tetraploids daylilies have been around for more than 30 years, and the process of conversion continues unabated. No characteristic in the diploid world is safe from the tetraploid hybridizer's voracious appetite. As long as there are diploids being hybridized, there will be conversions.

The common methods of treating daylilies with colchicine involve treatment of seedling embryos, clones, and callus (in tissue culture state). At the present time, clone treatment is the most popular and it is dealing us some difficult problems in hybridizing.

If you are considering working with converted tets, you must realize the importance of accurate

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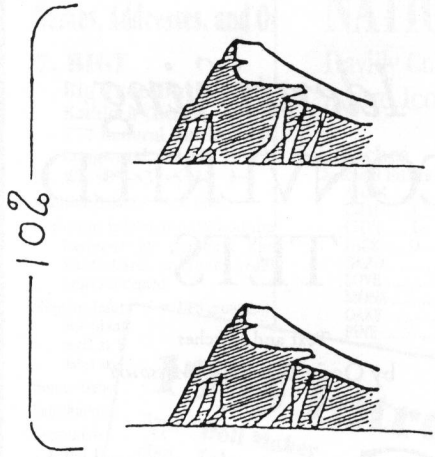
Figure 1

Identification—Variations of Conversions



#1: Stable 4/4 Periclinal Chimera
Description: High percentage of pollen is of TET size and is proven viable. Stomata check TET size. Divisions are true reproductions of mother plant. Seedling shows parent characteristics. Checked polyploidy for more than two years and all of its divisions.

#2: Stable 2/4 Periclinal Chimera
Description: Same as above except stomata checks diploid.

NOTE: Only varieties #1 and #2 should be considered marketable products.

#3: One-Shot Conversion 4/4 and 2/4
Description: First season, it checks similar to #1 or #2 and can be used then. Subsequent seasons, it probably will show little increase and usually will revert to diploid after one or two seasons.

#4: Zebra Conversions—A True Mericlinal Chimera
Description: Scapes and flowers show both TET and DIP characteristics; clumps may become mixtures of TET and DIP ploidies. Zebras are usable in the hands of those who check ploidy prior to each use. Dividing is recommended to isolate TETs, and after checking their divisions, they may be reclassified as #1 or #2 if stable.

#5: Joker Conversions—4/2 and Sterile Varieties
Description: 4/2 may look TET except for the pollen size. It is very difficult to use even when some tet pollen is present.

A few #1s and #2s can be TET in every respect except for being very sterile; some regain their viability after a few years. Don't discard early; continue to re-check. Perhaps they can be reclassified to #1 or #2 if they become usable.

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identification so as to concentrate your efforts where they will do the most good. Naked-eyeball identification and trial crosses are not obsolete but microscopic examination is essential for maximum efficiency. Your *time* and *good pod parents* are *not* unlimited, and if you use them unwisely, you may shortly wonder where the season went.

Even when sellers of conversions stand behind their products, acquisition is a risky venture at best and no one can replace time lost on worthless crosses.

The handout (*Fig. 1, left*) that was used at the 1993 Region 2 Mid-Winter symposium is an attempt to categorize the most common variations of conversions. There are undoubtedly more variations than those shown here, but these are the ones most often observed. The cartoons are not meant to replace more technical names but only to enhance the recall of us older folk.

You will note 90% of our conversions are erratic, reverting back to dips, or totally unusable. Many of the convertors literally snatch tet life from some of these plants at the opportune moment. This opportunity is usually in the first season after treatment and requires quick and accurate identification. After the first year, such a plant is putting the purchaser at high risk for successful crosses.

The remaining 10% are stable conversions that are identified from close observation of the mother plant and its divisions for at least two years. If they are found to be stable and fertile, the purchaser is not taking any more risk than with a second generation tet.

The convertors I know are sincere and respected hybridizers trying to help others with new tet blood. Despite good intentions, some plants will revert back to diploid, and you wonder who is still checking as the resales spread out.

Wise purchasers of conversionsshould learn to do their own identifications between the time of receiving and breeding a plant. If this is not possible, then ask the seller and/or convertor these questions.

1. Has the plant been converted for a period of two or more years?
2. Was the pollen size at least 40% larger than its dip counterpart?
3. Have pollen size checks been made over two or more seasons at several flowering periods?
4. Do the seedlings from this conversion show obvious characteristics of their daddy?

If the seller can answer yes (first hand) to all four questions, then you can rest assured that every feasible effort has been made to deliver a stable conversion.

Subsequent articles will deal with more information on identification methods and hybridizing with converted tetraploids.

Adapted by the author from material presented at the Region 2 1993 Winter Symposium.