

How Many Seedlings Does It Takes To ...

By Tom Rood, Grace Gardens, Penn Yan, NY March 2003

A question was asked: "How many seedlings does the average person grow to come up with a hybrid cross that is worthy of registering and introduction? I have read that people grow thousands of seedlings each year in their hybridizing programs and introduce very few selections from these seedlings."

This is a good question and it keeps coming up again and again. There is no solid answer for several reasons. For one thing daylily selection varies from hybridizer to hybridizer. I've seen great daylilies sent to compost piles because "they" didn't fit in with that particular hybridizer's program. On the other hand, I've also seen daylilies that boggle the mind why anyone would want to name. The later cases are by far the greatest in numbers. Big numbers of daylily seedlings certainly mean a bigger shot at success but result in expending enormous financial and labor resources. There are other ways to enjoy our efforts for the bulk of the rest of us.

George Rasmussen on Long Island has a tiny backyard garden. But each year he produces a fine crop of seedlings many of which are to die for. It isn't quantity but quality that he excels in. George got Pat Stamile and Dan Trimmer on the road to daylily hybridizing. George doesn't push his intros very hard because I think he has such small quantities available. Still, George has a very faithful following.

Begin by looking at your available seedling area. Figure on 4" to 6" spaces from seedling to seedling with seedling rows at least 1 foot apart. Closer makes it hard to remove a potential keeper without disturbing adjacent plants. Remember to leave a weeding aisle way. We've found 3 rows each 1 ft apart with a 2 foot aisle way for walking and weeding works best with maximum use of space. Once you know the number of seedlings you can manage each year you can plan on the number of seeds to make. Remember also that it will take up to two years to see some seedlings bloom and another year or two to determine their characteristics. That means you might have to nurse those babies for 3 to 4 years. If you make seed every year, the new space needed takes a lot garden. Be ruthless in getting rid of the ugly dogs!! That will help free up some space.

Next, diploid pods might produce anywhere from a dozen to 20 seeds each on average. Tetraploid pods produce a whole lot less maybe even just one or two seeds. We do both dip and tet crosses here and over the last eight years our annual seed production of 5000 tet and dip seeds runs an average of 8 to 9 seeds per pod. If it is a very dry year, as many as 50 percent of the crosses will fail to set seed. Mid-season seed set is the worst as it is normally hot and dry. Late season crosses usually set almost every time. We're not too unhappy with this situation as more late blooming daylilies are badly needed.

Now you have an idea of how many seeds you can handle and how many crosses to make to get them. It is called a plan. Figure out how many crosses you can make, figure which crosses are most likely to reach your dreams, add a few wild card crosses as they are like a crap shoot and even gamblers win once in a great while, figure out what plants are missing from your garden that you think will help you reach your goals and try to acquire them, and for crying out loud, follow your plan. Then wait for the babies to bloom.

Melanie Mason came up with a great way to plant daylily seed. It is called "Homespun Hybridizing" and you will find her article on our www.gracegardens.com web site as well as my article on "How We Start Our Seeds." If you follow our methods, you should expect to see 85 to 95 percent germination rates and perhaps even higher. The key to how many seedlings it takes to make a namer is for you to decide what seedlings you really want to keep. But first, it is an essential part of the hybridizer's program to get out and see as many daylilies as possible and especially those along the lines you want to work with.

Too many people get into hybridizing by covering the garden with pollen on just about everything in bloom. That's a great way to build a pile of seed but a poor way to get anywhere with keepers. Begin by being focused as to just what you want to see in your offspring. Find the best affordable parents you can along those lines to add to what you already have to work with.

I think you should plan to produce at least 25 seeds from each cross. That might be one or two pods of a diploid cross and four or five pods from a tetraploid cross. 100 seeds would be better if space allows. This is just a window to see how the cross is working. If seedlings are all dogs, the cross probably isn't going to work the way you want. On the other hand, some interesting seedlings might bloom and if this is the case, you might want to redo the cross in larger numbers. Each year you will be able to change one of the parents in the cross or even cross the siblings looking for the missing recessive genes in the F2 generation. Messing around with the same cross means you will not be in the race with the "big boys and girls" as they hardly ever make the same cross again in their search for fame and riches.

It has been said that only one or two plants are really distinctive from any cross of say 1000 seedlings. Looking through a window of only a handful of seedlings from a cross lets us know if it is worthwhile going that far to get a really new and distinctive daylily. All too many of the new introductions made every year are far from being new and distinctive. While we're in this ballpark, I might as well stick my neck all the way out and say that too many new introductions fail to meet judging criteria of bud counts, branching, healthy foliage, increasability in multiple climates and overall hardiness. It's what's under the hood that really counts.

In selecting daylilies to register, some crosses are like the goose that laid the golden egg. Indeed, nearly every seedling is worth naming. Some crosses produce only a handful of seeds if that many. I think I recall that ADMIRAL'S BRAID came from a pod bearing only four seeds. However, the point is that in some cases it doesn't take a boatload of seed to find keepers or namers. But those are rare. It seems to me that if the parents are chosen very carefully, and here it might take some little experience, that getting some good offspring is pretty much assured. Whether they are that much more distinctive from the parents is the problem. Many times one can tell right off the bat what at least one of the parents must have been. So, yes it might take a lot of seeds from one cross before a really great daylily is found. On the other hand, one can get "lucky" with the very first cross made. Lucky, only because some thought went into the parent selection beforehand. When any great hybridizer, and there are quite a few, gets "lucky" every year you can be sure it isn't luck!

You can walk through our seedling beds and select what we would reject and vice versa. Naming daylilies depends a great deal on the subjective judgement of the hybridizer. The more seedlings we make and the more daylilies we observe, the more intelligent restraint is used in naming any daylily. Finally, it probably boils down to how many grandchildren there are to name daylilies after.

Some daylilies are named just to get a name in the record books. Some daylilies are named that no one ever sees apart from the hybridizer. Look through the first AHS check list (Brown book) and see how many of those daylilies named therein are still around. In fact the FBI and CIA combined couldn't find 95% of them as they have passed into history through lost labeling and garden neglect. We might not want them anyway after seeing the advances being made. So one criteria in naming any daylily should be towards an eye on longevity. In other words, how long will the daylily last as newer ones keep coming along apart from the namer's home garden? A really great daylily today is tomorrow's compost object. How many still grow DANCE BALLERINA DANCE? A lot of people do of course but very few are hybridizing with it. But when DBD first came out it was a "WOW!" daylily that hybridizers died to get because it was a breakthrough for tetraploid ruffling.

When we name a so so daylily, it will pass out of existence pretty fast. It's circulation will be extremely limited, probably only among family and close friends who are not daylily people and who are not going to buy it. In one generation it is lost forever. We need to think about that whenever we start filling out forms for registry.

Well I may have gotten off the track a bit but so many things go into what makes a good daylily worth registering. All of us who are thinking of registering our seedlings should step back and think these things over before those forms are mailed .