

Coming Up Short: Groundcover Reblooming Daylilies

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INTRODUCTION

I made my first daylily crosses in 1969. My long-term goal was to produce daylilies that rebloomed and extended the flowering time. In the early 1970s, I was inspired by the breeding work of Walter Jablonski of Merryville, Indiana. In 1975 he introduced 'Stella de Oro' which eventually became the most popular daylily sold in the USA, Canada, and many European countries. It remains a popular daylily because of the following reasons:

- 1) Rebloom: often more than 10 weeks of bloom.
- 2) Early bloom: it starts before most other cultivars and is a harbinger of late spring
- 3) Winter hardy; to USDA Zone 4.
- 4) Rapid increase: 10:1 in container production when grown in full sun with adequate water and high fertility regimes
- 5) Good height for different container sizes—sold in quart, gallon, and 2-gal containers.
- 6) Bright mass gold color—self colors usually have the best curb appeal.

- 7) Extended bloomer: flowers open for nearly 24 hr.
- 8) Self-cleaning small (2.75 in.) blossoms.
- 9) Rust resistance.

Rebloom is often misunderstood in the daylily registration process and cultivars are registered with the "Re" symbol even though they are not reliable rebloomers. Also, rebloom differs depending on the zone in which the plant is grown. Nursery marketing (knowingly and unknowingly) uses the misrepresentation to their advantage.

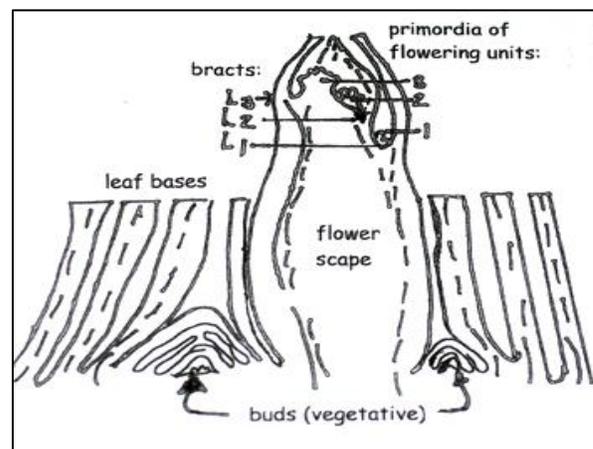


Figure 1. Anatomy of a dormant daylily

Figure 1 shows a typical dormant daylily with flower scape and vegetative buds. Plants such as ‘Stella de Oro’ have additional flower buds and have sequence blooming for several weeks. However, after flower primordia develop and flower, vernalization is required before more flower primordia develop.

MY DAYLILY BREEDING PROGRAM

My daylily breeding work has explored several different routes in order to find hardy dormant repeat bloomers. In this paper they’ll be discussed as steps.

Step 1: Identifying rebloom in species and early cultivars

In 1963 daylily breeder Warner introduced a miniature rebloom daylily ‘Bitsy’. Data on this daylily from Longwood Gardens, Kennett Square, Pennsylvania showed that it had 3 periods of bloom starting in early June and ending in September. Figure 2 shows much of the genealogy of this hybrid. The species involved are: *Hemerocallis aurantiaca*, *H. fulva* ‘Europe’, and *H. minor*. The rebloom appears to come from the reblooming evergreen species *H. aurantiaca*.

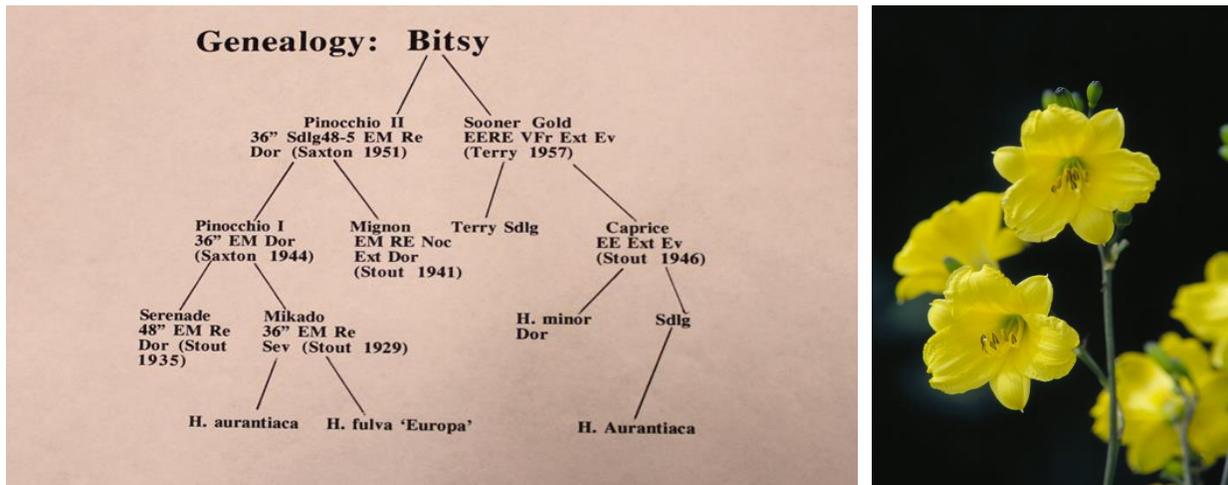


Figure 2. A (left) the genealogy of *Hemerocallis* ‘Bitsy’, B (right) ‘Bitsy’ flower.

After breeding diploid daylilies for several years, it became apparent that the evergreen gene was dominant to the deciduous gene and followed simple mendelian inheritance. Thus, the progeny of an evergreen daylily and a dormant daylily are all evergreen and heterozygous plants. Crossing these F₁ hybrids would produce about ¼ deciduous and ¾ evergreen plants. The matrixes are shown in Figure 3.

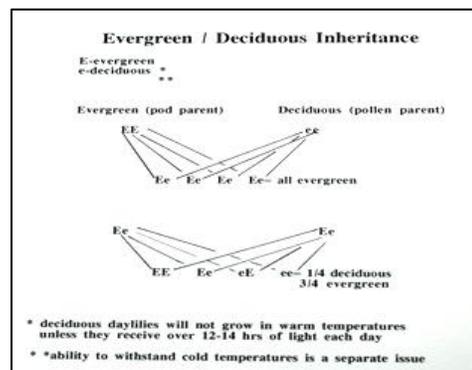


Figure 3. Evergreen and deciduous inheritance in daylily.

I visited Walter Jablonski's hybridizing during several different years in the early 1970s. He mentioned several different plants in the 'Stella de Oro' pedigree. Among them *H. lilio-asphodelus* which may be responsible for the extended bloom time. *Hemerocallis minor* was another background plant which may account for the small stature of 'Stella de Oro'. He also said he had used the cultivar 'Bitsy'.

Step 2: Experimental crosses to search for rebloom

After obtaining 'Stella de Oro' (Figure 4), I crossed it to most of the cultivars I had in my collection (about 50 different hybrids). The one rebloomer that came out of these crosses was 'Happy Returns' (Figure 4). It first blossomed in 1983 and was registered in 1986 and introduced by Wayside Gardens in 1987 (IPPS member Roy Klehm did the production).



Figure 4. Reblooming daylilies (left) 'Stella de Oro', (right) 'Happy Returns'.

Another hybrid came from an entirely different line of breeding. I had noticed some rebloom in two cultivars, 'Golden Chimes' and 'Perennial Pleasure', and crossed them together. The hybrid from that cross was red (it did not rebloom) and it was crossed with

'Little Grapette' which produced the reblooming 'Pardon Me'.

Using these two plants with some other rebloomers I was able to produce the reblooming 'Rosy Returns' which was an early color break from other rebloomers that were mainly yellow and gold. The pedigree of 'Rosy Returns' is shown in Figure 5.

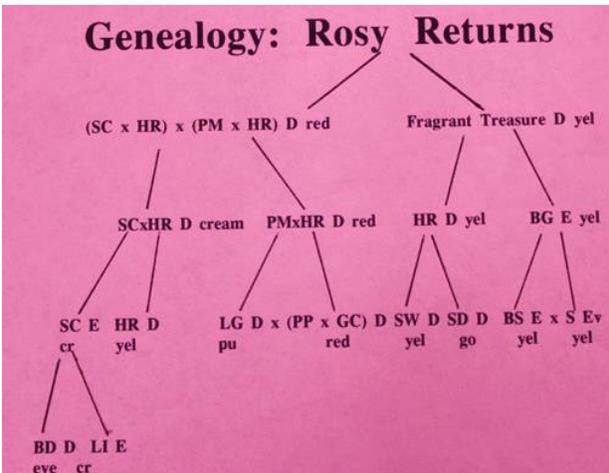


Figure 5. (A left) The genealogy of ‘Rosy Returns’. The letters represent the cultivars in the genealogy of ‘Rosy Returns’. Additionally, the letters “D” and “E” are used to designate dormant and evergreen. Cultivars letter designations: BD-‘Buffy’s Doll’, LI-‘Little Infant’, SC ‘Sugar Cookie’, HR-Happy Returns’, PM ‘Pardon Me’, LG ‘Little Grapette’, PP ‘Perennial Pleasure’, GC ‘Golden Chimes’ SW. ‘Susie Wong’, SD ‘Stella de Oro’ BG ‘Brocaded Gown’, BS ‘Buttermilk Sky’, and S ‘Sabie’. (B right) ‘Rosy Returns’.

Step 3: Breeding and selecting new rebloom cultivars motivated by a branded program

In the early 2000s I helped develop a couple of daylily brands with Denny Blew of Centerton Nursery, New Jersey, and now continue to work with Bob Blew of the same firm. One of the brands was for reblooming daylilies and identified as Happy Ever Appster® Daylilies.

It is also important to recognize other hybridizers that have contributed to my breeding program:

Rebloom genes from other hybridizers:

- Warner: ‘Bitsy’ 1963
- Jablonski: ‘Stella de Oro’ 1975
- Simpson: ‘Lemon Lollypop’ 1985
- Millikan: ‘Sunny Honey’ 1989
- Huben: ‘Early and Often’ 2001
- Carpenter: ‘Connie Can’t Have It’ 2004
- Herrington: ‘Little Gold Nugget’ 2005
- Derrow: ‘Adena Blizzard’ 2014

Below are examples of cultivars I introduced and are included in the brand Happy Ever Appster® (see Figure 6 for selected images):

- ‘Apricot Sparkles’
- ‘Big Time Happy’
- ‘Dynamite Returns’ Passionate Returns™ daylily
- ‘Endless Heart’ NJ Earlybird Cardinal™ daylily
- ‘Happy Days are Here Again’
- ‘Happy Enchantment’
- ‘Happy Returns’
- ‘Red Hot Returns’
- ‘Romantic Returns’
- ‘Rosy Returns’
- ‘Scentual Sundance’
- ‘Stephanie Returns’
- ‘Sunset Returns’
- ‘When My Sweetheart Returns’



Figure 6. Examples of cultivars I introduced and are included in the brand Happy Ever Appster® daylilies. Top row left to right: ‘When My Sweetheart Returns’, NJ Earlybird Cardinal™ ‘Endless Heart’, ‘Happy Days are Here Again’; Bottom row: ‘Red Hot Returns’, ‘Scentual Sundance’, ‘Stephanie Returns’.

Step 4: Breeding self-colors for mass display and curb appeal

Daylilies in bright colors and usually of one color have the best curb appeal. Generally bright reds (Figure 7), bright pinks, whites, yellows, and oranges provide the best curb appeal. Patterned daylilies and those with eyes often are not attractive from a 100 ft or more and do not have curb appeal; however, they are useful for decorating smaller gardens. Several seedlings are shown that represent some of my recent breeding work toward curb appealing daylilies.

Evaluating, producing, and marketing a new cultivar (brand) involves more than a plant breeder’s input. Large nurseries often use focus groups representing gardeners, retailers, landscapers, and growers to help

them in the evaluation process. Growers need to be consulted to determine special production needs, growing methods, and timing schedules. Marketing with patents and trademarks needs to be carefully planned for the best economic outcome.

Some criteria I use in the evaluation process of groundcover daylilies:

- Clean self-colors with curb appeal (pinks, reds, white, yellow, and orange)
- Rebloom (8 weeks plus)
- Rust resistance
- Early bloom (June 1 in Zone 6)
- Hardy to Zone 4
- Rapid increase greater than 1:5
- Short plant less than 18 in.
- Extended opening greater than 16 hr
- Self-cleaning, 3-4 in. flowers



Figure 7. Bright red selections with curb appeal.

Step 5: A trend toward smaller homes and gardens (less time for maintaining big gardens)

The main focus of daylily breeders has been with large plants and large flowers. These plants usually require deadheading each day. However, there appears to be a trend for more compact plants for smaller spaces and for container gardening.

In order to compete with long blooming annuals there needs to be greater effort in producing more rebloom in daylilies. As in all ornamental plants, there needs to be continued improvement in new colors and color combinations.

I'll end this by saying: My dream is to see millennials and generation Z customers walking out of garden stores with "6-packs" of unique quart sized daylilies all in bloom on June.