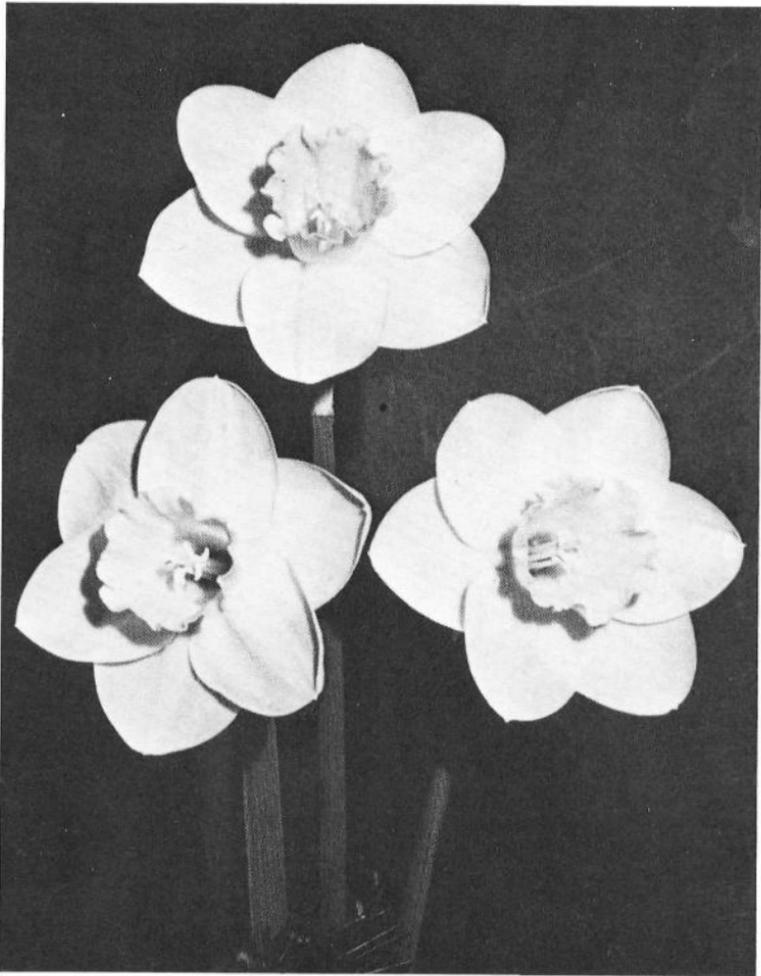


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The

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Articles and photographs (glossy finish) on daffodil culture and related subjects are invited from members of the Society. Manuscripts should be typewritten double-spaced, and all material should be addressed to the Editor.

DEADLINE FOR THE NEXT ISSUE IS APRIL 15, 1981

SCHEDULE OF MEMBERSHIP DUES IN THE AMERICAN DAFFODIL SOCIETY

Individual.....	\$7.50 a year or \$20.00 for three years (Juniors, through 18 years of age, \$3.00 a year)
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ADVERTISING RATES

Advertising rates for the *Journal* are as follows: full inside page, \$75.00; one-half page, \$45.00; one-quarter page, \$30.00. For additional information, write the Chairman of Publications, Mrs. Robert Cartwright.

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THE COVER PHOTO

is of Golden Aura 2 Y-Y (Richardson, 1964) which showed increase in bloom count each year in the Capen garden. (Photo by Wells Knierim.)

A QUANTITATIVE EVALUATION OF THE LAST 95 RICHARDSON OFFERINGS

ELIZABETH CAPEN, *Boonton, New Jersey*

In 1977, Mrs. Richardson invited us again to visit Prospect House. We had been there in 1962, just after Lionel died and when Nell was pondering what she should do next. As everyone knows, she continued for fifteen more years the leading role in the production and showing of the highest quality exhibition daffodils that she and her husband had held for years.

But by 1977, Prospect House was hardly a shell of its former grandeur, although its chatelaine pursued her charming "hostessing" for which she was famous—gorgeous daffodils in every room, delightful meals, graciously served, and especial solicitation for the heat problems of cold-blooded Yankees.

While inside it was the same Prospect House, the grounds had sadly deteriorated. Gone were the fourteen gardeners who polished the details; gone the one whose sole assignment was the maintenance of those seeming miles of huge, precise hedges; gone the acres of stock plants as well as those fascinating big plots of three, four, and five year seedlings, and even the open beds of potential show flowers, with their scattering of little dunce caps on stakes, protecting potential exhibition blooms from probable hail.

Nell seemed resigned although she mentioned she wished people could see Prospect House as it had been. (I am sure she would have been gratified to know that very soon the ADS would indeed "see it as it had been," when I showed pictures of her 1962 place to the Columbus coventioners.) We thought she was more distressed at the loss of one of her nine laying hens and particularly at the prospective sale of her beloved herd of Jerseys.

Nell and Jack Goldsmith showed us what they still grew, pulling back those strips of Hessian cloth. I took notes—and pictures—and discussed pedigrees and merits—and made want lists. Nell said, "Maybe they'll now believe I am really going out of business."

As it dawned on me that this really was an end of an era, I asked Nell to sell us samples of all of her last three offerings and a few then unnamed seedlings. Over the years, we had always preferred to buy Richardson daffodils after they had been acclimated somewhat in Northern Ireland or by Murray Evans, whose growing conditions were a little closer to our own.

In due course, about 100 bulbs arrived, and we decided that such an important collection demanded especial treatment. We decided that rather than slip each bulb into its appropriate slot in our test garden, determined by its class and date of introduction, we should make a new area, especially for this block of the Last of the Richardson's.

We selected a strip, four feet by thirty-five feet adjoining the "pink" section of our test garden. This area had not been gardened by us for at least twenty-five years and never for daffodils.

Our soil is classified as Gloucester Rocky, named for Gloucester, Massachusetts, and found along much of the terminal moraine of the Wisconsin sheet, the last glaciation of the Pleistocene. It is predominantly podzolic and here is mostly derived from gneiss, although farther east from schist. While interlaced with rocks from small to huge, this strip, having been gardened for over a hundred years, was free of major boulders.

We treated this plot as we had the balance of our test garden: top foot removed and put aside; second foot put aside if good, any subsoil to two feet discarded; below two feet, soil was broken up and the following added: rough compost, undigested organic matter, leaves; slow-acting nitrogenous fertilizer; dried manure (we have no access to fresh); and superphosphate. This mixture was spaded under. Next was added a mixture of about a foot of the best topsoil, half a foot of peat moss, and additional superphosphate.

The final foot, now near the ground level, used the second class top-soil, more peat and superphosphate. My precise prescription will not be meaningful to other areas, as no two soils will require the same treatment, but the above indicates the basic needs. A soil test and a long talk with a local grower of beautiful daffodils are the sine qua non for any beginner.

Following the building of the soil, a soaker hose helped to bind it together and to reestablish capillarity. Heavy losses after careful deep soil preparation without such watering have taught me the necessity of this step.

Bulbs were planted, ten inches apart with tops about five inches below the surface. Most of them were fine DN's, the classic double-nosed bulbs that all suppliers try to send. As always, I indicated the size planted, so years later I can evaluate the quantity of bloom.

Planting was done by class, date of introduction, and alphabet, as we have done in our test garden and sometimes elsewhere. We have found it highly important for any planting, not only to label and to make a plan, but to have a system of labelling, so that when animals and children destroy labels and something happens to that one lost page, you can reconstruct. Most recently this happened to us when deer pranced all over our temporary Richardson labels last winter. Our system saved us.

We mulched with two inches of wood chips and relaxed into one of those winters daffodil growers dream of. Heavy snow cover provided a blanket of protection and a bit of nitrogen to boot.

We knew 1978 could be a great season when little Kenellis (a crazy cross of *bulbocodium* × *triandrus*, our only Division 12, and Alec Gray's very first hybrid) tucked into a protected corner, actually flowered for the second time in over twenty years; and so it proved to be. Not for many years had our spring been so rewarding.

The Richardson 95 were interesting. Every one produced at least one flower. (See chart.) Most prolific was Salmon Spray with five (from DN1 and R1), while four blooms came on Carrickbeg (triple), Montana (D1 R2), Burning Torch (R1), Border Flame (triple), Irish Mist (D1 R2), Rose Royale (triple), Irish Treasure (triple), and Avignon (2 D2). It will be noted that every one of these began with more than a plain doublenose #1 sized bulb, except Burning Torch, which started from a large round. (Before over-emphasizing the latter's strength, I shall add that it did not live up to the promise of its first year.)

Our over-all impression was that of brilliance and height in the red cups, and substance and perfection of form in the doubles. Of course, we knew Nell and Jack were the ones who put the flowers in the bulbs. All we did was to provide a place for them to emerge.

That year, after bloom, I gave the 1000 in the test garden and much of the propagation and display areas a dose of wood ashes from the fireplace.

The winter of 1978-79 was the sort we prefer to forget. It was rough that this last block of Richardson productions had so soon to be subjected to the sort of brutal winter that puts us in Zone 5—minus twenty degrees, with exposed ground and areas sheeted in ice. We lost bloom from most of our shrub and tree collections. Spring began late and was rushed off the stage in a blast of heat. The daffodil displays were just poor.

Of course we anticipated that the second year of bloom here would follow the accustomed pattern, being inferior to the first. This was markedly true. Height, color, size were disappointing. Total bloom count dropped from 221 to 207. Some plants did not show at all: Perseus, Gambler's Gift, Golden Ranger, Arosa, Monterrico, Gay Song. Fourteen others grew but did not flower. Another twenty-four dropped off in bloom count. Four remained the same.

On the positive side, thirty-seven plants increased in bloom count. Golden Aura went from three to six; Rose Royale, four to six. There were five blooms each on Montana, Dancing Flame, Irish Mist, Fair Prospect, Kiskadee, Chopin, and Tamoretta.

No especial treatment other than clean culture seemed called for in the summer of 1979.

The third winter, 1979-1980, was another severe one. In fact, long-time gardeners of this area will argue as to which was the more destructive of the two. The most unusual feature of the fall of 1979 was a heavy snow fall when the trees were in full leaf. It was weird to see the dogwoods and hardwoods at the height of their fall brilliance just laid low. We lost about nine full grown dogwoods, and some nice shrubs and trees had to undergo major surgery. At that time, I did not expect this portended a disastrous winter, but it may have, as the spring reflected the damage.

Our shrubs are the litmus of our seasons. In 1980, *Forsythias* were fine; *Magnolias* magnificent; *Cornus* poor on the whole, as were both *Prunus* and *Malus*. *Citrus trifoliata* (on the tender side) did not bloom at all; but *Corylopsis* (after twenty years) spread its pale yellow racemes over an assemblage of miniature dafs and evergreens. Some of the *Viburnums*, especially *tomentosum maresii*, were sensational as was the so-called "white forsythia" (*Abeliophyllum distichum*). Some later ones, especially *Rhodendrons* (both species and hybrid) had more bloom than ever before. Several of the *Daphne* succumbed, but that is par for *Daphne*. Early spring lacked rain. We gave everything a bit of magnesium sulphate and put the soaker hose on the Richardson plot. I cannot say I was enthusiastic about our daffodil display, but it was an improvement on that of the year before, and we were happy to entertain many visitors.

This hardiness report on the Richardson daffodils, in fairness to the Richardsons, must be viewed against the very severe second and third winters of their life here. Actually, I had long known that our conditions were far more uncompromising than those of Waterford, and so, as mentioned before, whenever possible I had strained our additions from there through the colder climates of Northern Ireland and Oregon.

After their second winter here, the following did not show: Montaval, Arkle, Arctic Mist, Golden Ranger, Arctic Imp, Rossini, Ophelia, Inishmore, Gay Song, and Coral Jubilee.

The following produced a healthy plant but no flower: Burning Torch, Fire Flash, and Tudor Love.

I have another category in recording daffodil performance that I call "wisp." Now, while I majored in chemistry, I avoided any contamination with botany, so I am not sure any botanist will accept this term. In fact, I have two categories: "wisp" and "leaves." Obviously, there is some hope for the latter, but mighty little for the former.

Here is my "wisp" and "leaves" record for 1980: "Lvs:" Barbados, Don Carlos, Ringleader, Jewel Song, Aosta, Inishmaan, Irish Treasure, #880, Montego, Zabarot, Samantha #1, Coral Jubilee #2. "Wsp:" Angola, Pink Champagne, Gay Kibo, Viennese Rose.

Obviously, this represents a severe loss of some famous and some very new cultivars. It underlines our preference for bulbs raised in colder climates, and while the blow came quickly because of the exceptionally brutal winters, I have no doubt that the results would have been the same given kinder years. The Richardsons grew for show, under very protected conditions. Their daffodils were not subjected to rigorous testing. A number of their famous ones have never succeeded here. However, we are hoping that a milder winter and some coddling will bring some of them back to us.

On the positive side, the third year of bloom found the following most floriferous: Mill Reef, five; Montana, six; Golden Aura, nine; Irish Light, seven; Fiery Flame, five; Bold Lad, five; Irish Mist, eight; Rose Royale, eight; Salmon Spray, six; Ballyroan, five; Misty Glen, six; Kiskadee, seven; Avignon, eight; Golden Eye, six; Beauvallon, six; Tamoretta, five.

There was agreement among those visitors whose votes we count—and this year they included John and Marie Bozievich and Phil Phillips, who dropped in here after visiting nine shows. Perhaps their evaluating antennae were tuned—or perhaps dulled—after seeing so many, but they agreed with others of us that Misty Glen won Best-of-Show, although I suspect John, by that time, preferred the shellfish.

We decided it would take another year of growing here, before a qualitative evaluation would be justified—maybe even longer. Some daffodils, like some people, are “slow developers.” Many varieties, in our experience, peak in their third, fourth, and even seventh year.

This fall, I shall chlordane, as we have had too many flies, and I shall use a very simple maintenance procedure we have found successful: a top dressing of dried manure and 0-20-0. After three months of the most extensive drought on record, we have finally had dribblets of water that seem to have started belated daffodil root growth, although too late to save many trees, shrubs, wildflowers, and ferns. We are hopeful that in their fourth season here, the last 95 from Prospect House will put on the show we expect from Richardson originations.

I customarily use the following to designate bulb sizes:

- 2nt — with 5 noses
- 2d — with 4 noses
- T — with 3 noses
- t — small triple
- D — large double nosed
- d — small dn (Trade D2)
- R — large round
- r — small round (Trade R2)
- s — slab, offset, scrap

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QUANTITY EVALUATION
of the
Last Offering from
RICHARDSONS

CLASS	YR	CULTIVAR	BULB	NUMBER OF BLOOMS			
			SIZE	1978	1979	1980	
1Y-Y	63	Carrickbeg	T	4	1	1	
	63	Olympic Gold	T	3	4	3	
	64	Montaval	D	1	2	-	
	64	Revenge	Qd	3	2	2	
	68	Arkle	Rr	1	1	-	
	72	Sir Ivor	T	2	4	3	
	73	Angola	D	2	0	wsp	
	73	Mill Reef	D	3	4	5	
1W-Y	74	Golden Prince	RR	2	3	2	
	76	Tudor Dance	D	2	3	3	
1W-W	63	Perseus	D	2	-	-	
	69	Montana	Dr	4	5	6	
2Y-Y	77	Arctic Mist	Ds	2	0	-	
	64	Golden Aura	D	3	6	9	
	68	Gambler's Gift	T	3	-	-	
2W-WWP	74	Celtic Gold	D	1	2	2	
	67	Celtic Song	D	1	3	1	
2Y-W	76	Cairngorm	D	3	4	2	
2Y-Y	76	Golden Ranger	D	2	-	-	
2Y-R	62	Fiery Flame	D	3	4	5	
	63	Caracas	D	2	1	3	
	66	Pipe Major (Board)	D	2	3	3	
	67	Burning Torch	R	4	2	0	
	68	Dancing Flame	T	3	5	5	
	72	Border Flame	T	4	2	3	
	72	Irish Light	D	2	3	7	
	72	Safari	D	2	2	2	
	74	Bold Lad	D	2	3	5	
	74	Gala King	D	3	2	3	
	76	Fire Flash	2R	3	2	0	
	76	Orange Light	D	2	2	2	
	2W-Y	72	Irish Mist	Dr	4	5	8
		73	Tudor Love	D	3	4	0
		74	Trouville	D	2	1	3
76		Arctic Imp	R	2	3	3	
2W-R/O	61	Royal Regiment	t	3	0	-	
	63	Barbados	D	2	2	lvs	
	64	Don Carlos	T	2	0	lvs	
	67	Irish Rover	D	2	2	2	
	68	Honduras	DR	2	2	1	
	68	Rossini	D	2	1	-	
	72	Ringleader	D	2	3	lvs	
	73	Random Light	t	1	3	3	
	76	Red Marshall	RR	1	2	4	
	77	Lanzarote	D+	1	1	1	

CLASS	YR	CULTIVAR	BULB NUMBER OF BLOOMS			
			SIZE	1978	1979	1980
2W-YP,W-P	73	Coralita	T	3	3	2
	73	Santa Rosa	D	2	3	2
		Sdl 880 (4078) #1	T	3	2	1
2W-P	58	Rose Royale	T	4	6	8
	61	Rainbow	DR	3	2	3
	62	Fair Prospect	2R	3	5	4
	67	Jewel Song	T	1	0	lvs
	67	Ophelia	D 2sc	1	0	-
	67	Salmon Spray	DR	5	4	6
	68	Aosta	R	2	1	lvs
	72	Arosa	R	1	-	-
	72	Inishmaan	DR	1	0	lvs
	72	Tara Rose	D	3	1	1
	74	Ballyroan	T2	2	4	5
	74	Gracious Lady	T	2	1,2blst	3
	76	Sea Rose	T2 +	3	3	3
2W-W	77	Irish Treasure	D	4	1	lvs
		Sdl. 880 (4078) #2	T	2	1	1
	76	Inishmore	T	3	4	-
2Y-W	76	Persepolis	D	3	4	4
	77	Misty Glen (Board)	D	2	3	6
	77	Lemon Candy (#226)	T	2	2	3
3Y-YYO		#4131 Golden Aura x	#1	2	1	1
		#4131 Daydream	#2	2	4	0
	68	Montego	Q	2	1	lvs
3Y-YYR	72	Zabarat	T	3	4	lvs
3W-GYY	71	Esmeralda	T	3	0	1
3W-YYW	72	Kiskadee	T	3	5	7
3W-WWY	72	Silver Leopard	D2R2	2	4	4
3W-GYY	73	Avignon	2D2	4	4	8
3W-Y	73	Chopin	T	3	5	2
3W-Y	74	Goldeneye	T	2	4	5
3W-R	62	Parthia	D	1	2	1
3W-GGR	63	Fiorella	D2s	2	0	1
3W-RRY	63	Leonora	R	2	1	1
2W-W	72	Snowcrest	2R	3	2 bl	3
4W-WOO	62	Monterrico	D	2	-	wsp
W-W	63	Takoradi	T	2	1	1
W-WOO	64	Gay Record	D	2	1	1
W-W	64	Gay Song	Ds	2	-	-
Y-ORR	69	Beauvallon (Lloyd)	D	2	4	6
W-ORR	69	Tamoretta	DR	2	5	5
W-WPP	72	Pink Champagne	D2 R2	3	1	wsp
	72	Samantha #1	D	2	1	lvs
		Samantha #2	T	2	0	-
W-WOO	73	Gay Ruler	D	2	2	4
	74	Gay Kybo	D	2	0	wsp
	73	Caballero	D	2	1,2bl	2
W-WPP	76	Viennese Rose	3R2 s	1	0	wsp
	77	Coral Jubilee (No. 21)	D	1	0	-
	77	Coral Jubilee #2	R	1	0	lvs
	Totals		221	207	207	

BULLETIN BOARD

The Executive Directors plan to be away from home from March 15 to March 31. Anyone who needs any supplies, especially show entry tags, during that time or later should make their request in advance of March 15.

Daffodils to Show and Grow - 1980 is available from the Executive Directors for \$4.00. This new book, received from the printer in early January, is a completely revised and updated, classified, descriptive list of daffodil names. It is published in conjunction with the Royal Horticultural Society.

The Royal Horticultural Society Yearbook, *Daffodils 1980-1981*, also received by the Executive Directors in January, can be purchased for \$5.00.

Many years ago Executive Director George S. Lee, Jr., purchased a large number of *Journal* binders for the Society which he sold for the then high price of \$3.40 each. Inevitably, in time, the stock of binders was exhausted. After considerable research and negotiation another stock of binders has been procured and is available for purchase by members. Cost, including postage, has since zoomed. They are sturdy attractive green binders with THE DAFFODIL JOURNAL stamped in gold on the spine and on the cover. Price, including postage, is \$7.50 east of the Mississippi, \$8.50 Canada and west of the Mississippi, and \$10.00 overseas.

COMING EVENTS

March 25, 1981	3:00p.m., Board of Directors Meeting, Newport Beach
March 26-28, 1981	ADS Convention, Newport Beach, California
April 4-12, 1981	Daffodil Festival, Puyallup Valley, Washington
April 11, 1981	Daffodil Parade, Tacoma, Puyallup, Sumner, Washington
April 14-15, 1981	RHS Daffodil Show, London, England
April 25, 1981	Championship of Ireland Show, Portadown, Northern Ireland
May 3, 1981	Daffodil Show, Omagh, Northern Ireland
October 23-24, 1981	ADS Fall Board Meeting, Dallas, Texas
April 1-3, 1982	ADS Convention, Nashville, Tennessee

WHERE CAN I GET . . . ?

CULTIVAR:

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DESIRED BY:

Dr. Theodore E. Snazelle
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CORRECTIONS TO DAFFODILS TO SHOW AND GROW

In checking the new copy of *Daffodils to Show and Grow*, Dr. Throckmorton has noted that the computer failed to note the division of several cultivars. Please note in your copy that Cool Flame is in Division 2, and that Apotheose #, Double Diamond, Double Perfection, Eriskay, Grebe, Meander, Ocarino, Praline, and Smokey Bear are all in Division 4. Also, Royal Porcelain is a 2W-WPP registered in 1963 and bred by Richardson. In the list of hybridizers, note that B.O. Mulligan is from the USA.

JUDGING SCHOOLS - 1981

- Course I -March 7, 1981, in Conway, Arkansas; Mrs. Volta Anders, 1628 Maul Rd. N.W., Camden, Arkansas 71701, Chairman
- Course II -May 8 or 9, 1981, in Chaska, Minnesota; Julius Wadekamper, 10078 154th Avenue, Elk River, Minnesota 55330, Chairman
- Course III-April 13, 1981, in Richmond, Virginia; Mrs. Lester Belter, Route 2, Box 217 A, Mechanicsville, Virginia 23111, Chairman
- Course III-(tentative) May 10, 1981, in Chaska, Minnesota; Julius Wadekamper, 10078 154th Avenue, Elk River, Minnesota 55330, Chairman

Accredited Judges may audit any of the above listed schools to fulfill the requirement for a required refresher course every three years. No examinations are required.

At the ADS Convention March 26-28 in Newport Beach, California, Accredited Judges may audit a group of designated lectures as credit toward their requirement for a refresher course. Information is available from Regional Vice-President Ms. Marilyn Howe, 11831 Juniette, Culver City, California 90230.

Accredited Judges who are not able to attend any of the above listed courses should contact their Regional Vice-Presidents to find out where an approved course is being held in the region. Such courses and the instructors for them must be approved by the ADS Judging Schools Chairman. Generally the instructors should be chosen from the list of ADS Approved Instructors and the format of the course must in some way help to improve judging standards. RVP's should make early requests for approval since in most cases the matter is referred to the ADS President for her recommendation.

—MRS. MERTON S. YERGER, *ADS Judging Schools Chairman*

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VII, 1.

32. *Amaryllidaceae.*



III.

Narcissus poeticus L.

Echte Narzisse.

Genus 170: *Narcissus* L., Daffodil.

Bulbous plants with basal, linear leaves. Flowers subtended by a spathe. Perianth segments fused to a tube at their base and with tubular or funnellform lobes; corona present. Stamens inserted, anthers dorsiflexed, free, and dehiscent along their whole length. Fruit a berry-like, trilocular, polyspermous capsule.

A. Corona long-campanulate. Flowers usually single, yellow.

1. Corona cup-shaped, with serrate and crisped edges as long as or longer than the perianth lobes; both deep yellow. Good scent. Flowers single. Flowering time March to May. Height 20-35 cm. In Alpine Meadows and between shrubs in the southern part of the area. Rare.

Narcissus pseudo-narcissus L.

2. Corona campanulate, half as long as the perianth lobes, the first deep yellow, the latter very pale yellow. Flowers usually single, rarely three. Good scent. Flowering time April-May. Height 30-40cm. In meadows and in gardens under trees in the southern part of the area. (*N. pseudo-narcissus* × *poeticus*?)

Narcissus incomparabilis Curtis.

B. Corona bowl-shaped, much shorter than perianth lobes.

- a. Flowers several, yellow; corona darker than perianth, entire. Flowering time March. Good scent. Height 30-40cm. On infertile and stony slopes in southern Istria.

N. tazetta L.

- b. Scape 1-3-flowered. Perianth white.

- a. Corona yellow with red edges, serrate. Perianth lobes dirty white. Scape usually 2-flowered. Flowering time April, May. Height 30-40cm. In meadows in Styria and western Switzerland.

N. biflorus Curtis.

- b. Corona yellowish with red edges. Scape usually 1-flowered.

1. Perianth lobes ovate, overlapping at the edges. Corona edges undulate, unevenly serrate. Ovary at flowering time bipartitely compressed at the top. Flowering time May. Height 20-40cm. In meadows and amongst shrubs in the southern part of the area. In the north probably as garden escapes.

N. poeticus L.

2. Perianth lobes longish, seldom, but more often not, overlapping at the edges. Corona edges undulate, unevenly serrate. Ovary. Flowering time April, May. Height 20-30cm. In mountain meadows of the Alps, the Pre-Alps and the Jura.

N. radiiflorus Salisbury.

—Translation by MRS. MCHARDY, Germany

(The illustration and above translation are from Prof. Dr. Thome's *Flora von Deutschland, Osterreich und der Schweiz* published in 1886.)

HERE AND THERE

The word from California is that New Zealanders Phil and Graham Phillips, Tasmanian David Jackson, and Barbara Fry from Rosewarne in England will be among the speakers at the convention.

We are saddened to learn of the death in December of Dr. Goethe Link. Board members who visited the Link home last September, and all who knew him, share Mrs. Link's loss, and send her their deepest sympathy.

A new book, *How to Photograph Flowers, Plants & Landscapes* by Derek Fell, devotes several pages to Lentenboden, the garden of Charles Mueller in New Hope, Pennsylvania. (H. P. Books, Box 5367, Tucson, AZ 85703)

The Swarthmorean of October, 1980, reports that the "Scott Horticultural Foundation of Swarthmore College formally dedicated that area's first groundbreaking solar greenhouse in honor of its first Director, John Wister, and his wife Gertrude, a distinguished horticulturist and former Director of Tyler Arboretum, at ceremonies Sunday, October 5."

Vol. 12, No. 16 of the *Avant Gardener* includes a condensation of Frances Armstrong's article on miniature daffodils which appeared in our September issue. In Vol. 12, No. 19 of the same publication, Ceylon is described as "the noblest daffodil of them all."

The October 12, 1980, issue of the *Los Angeles Times Home* tabloid includes an article by Robert Smaus, "Daffodils by the Dozens," which is a beautiful, full color photo essay of Gene Bauer's garden in the San Bernardino Mountains. From the looks of the photographs, Daffodils by the Thousands would have been a more appropriate title! In a late December letter, Gene writes that ADS members attending the convention are most welcome to visit her and her daffodils. Be advised, however, that her garden 100 miles northeast of Newport Beach is at an elevation of 5500 feet and the weather there is considerably different than that which prevails at the sea level elevation of mild Newport Beach. Also, there is no dependable public transportation from San Bernardino to Running Springs, so a car becomes a necessity. Driving time from Newport Beach to Running Springs is one and a half to two hours. Anyone interested in visiting should write her, Mrs. Dale Bauer, Box 205, Running Springs, CA 92382, phone 714-867-2254. From the looks of the photos, it's certainly worth the effort!

Newsletters continue to arrive from various local, regional, and national societies telling of daffodil activities around the world.

The Northeast Regional Show, Chambersburg, Pennsylvania, has been rescheduled for April 28, 29, 1981. Celebrating the Fiftieth Anniversary of the Chambersburg Garden Club, the Show is going to require unusually lengthy preparation, and the Easter Weekend made the earlier date impracticable. This show is to feature numerous special awards, including gift certificates for bulbs of John Lea's Gold Convention and Phil Phillips's Divine. There will be a special section for blooms of cultivars registered fifty or more years ago, and one for gardeners who grow fewer than 100 cultivars.

For a touch of nostalgia 1981's schedule will reprint a schedule from one of the Club's earliest shows—so refresh your memory for terms such as "Incomparabilis," "Leedsii," and "Barrii." And lest we think the need for a sense of humor in coping with the frustrations of showing daffodils is something *new*, here's a quotation from that ancient document: "The schedule—that seldom read, much misunderstood, frequently misinterpreted, often justly criticized, perennial headache." The more things change . . .

When Ted Snazelle, whose series on pests and diseases concludes in this issue, moves to a new area, he takes not only his own bulb collection, but immediately begins plans to establish a test garden in conjunction with the university with which he is associated. Since joining Mississippi College in June, he has made arrangements to plant an experimental garden on the grounds of the president's residence. Bulbs of 300 cultivars were donated by Wells Knierim and Dr. Bill Bender and were planted in November.

.....

Dear Daffodil Abby,

The Burpee Co. suggested that I contact you for information they were unable to supply.

Can you tell me for whom the Mary Copeland daffodil was named? It is of particular interest to me.

Thank you for your help.

Very truly yours,
Mary Copeland R.

Dear Mary Copeland R.,

Your namesake, Mary Copeland, daffodil made her debut in 1914. For not just years but for decades this white and red double daffodil reigned supreme in its class. Year after year it was chosen in ballots as the best double daffodil and usually chosen without a rival mentioned. In her mature years, Mary Copeland eclipsed her fame for beauty by her fame as the mother of a most remarkable child, Falaise, and the grandmother and ancestress of a whole new great race of double daffodils.

In 1934 the Irish hybridizer, J. Lionel Richardson, found a seed pod on Mary Copeland, a most unusual circumstance as doubles were almost always sterile. One seed became the white and orange, Falaise, itself remarkable as a most fertile double daffodil. Crossed with the strong, handsome daffodils of its day, Falaise children had beautiful blooms far surpassing itself or Mary Copeland but they all must acknowledge Mary Copeland as the grand dame of the family.

The 39 or so reference books that I looked into tell me little about Mary Copeland's childhood. She was raised by Mr. W. F. M. Copeland [of Copeland china fame] and spent her first years at "Shirley" near Southampton in England. Mr. Copeland named a daffodil Mrs. Wm. Copeland, presumably for his wife. Another was named Irene Copeland. It seems likely that Mary Copeland was named after Mr. Copeland's daughter but it might have been his Mother or sister.

With her own magnificent progeny available, Mary Copeland is seldom seen now and I do not know of a single catalog dealer who sells it although I've seen it for sale at a store garden center. If you wish I can ask the membership of the American Daffodil Society if any of them can make available a bulb to you.

Daffodil Abby

.....

Fly North with the Robins . . . and South, and East, and West. Write to the Round Robin Chairman, 1341 Lincoln Way East, Chambersburg PA 17201.

COMMERCIAL DAFFODILS ALONG THE MID-ATLANTIC COAST

GRANVILLE HALL, *Gloucester, Virginia*

Daffodils are still grown along the coast, and blooms are shipped each spring to northeastern cities, but the annual crop of some 15,000 boxes seems but an echo of those years when it exceeded 75,000. To the old timers, it's a wistful echo, attached somehow to remembrance of what seemed best in life. Few growers I have known over the past thirty years will admit to any motive other than profit; but there were, I think, other things of value. And, besides, there wasn't that much profit . . .

At first, there was—when Mrs. Mordecai Linthicum Smith of “Toddsbury” and “Holly Hill” farms in Gloucester County decided to try a few Trumpet Major blooms in Baltimore. They were picked from descendents of bulbs brought over by early English Virginians, and by the time of Mrs. Smith's little adventure in the '90s, had spread throughout the countryside. She packed several hundred blooms in laundry baskets, covered them with cheesecloth, and sent them off on the Bay steamer to Union Station in Baltimore. In Baltimore, William Thomas (her son by a former marriage) resold them to newsboys who retailed them on the street. Business was brisk, the word spread, and neighboring farms were soon dotted with beds of transplanted trumpets.

During those early years before World War I, daffodil growing in the area was limited to family-unit production of trumpet blooms for Baltimore, but other interests were stirring. Charles Heath, a transplanted New Yorker, had long been growing fancy imported Dutch and English bulbs on his “Auburn” estate across the North River from “Toddsbury.” The James and Nicholson families of Robins Neck were propagating a newly-imported Dutch variety called Emperor; and near Auburn, the Hicks brothers, Allan and “Bobbie” were beginning to think big. As time passed, “flower growing” spilled over into the neighboring counties of Mathews, Middlesex, and York; then down across the James River to Southside Virginia for earlier blooming.

Between the wars, cut daffodils were profitable enough, and the bulb trade began to grow. During this period, the business was greatly influenced by three factors of significance: rapid development of the motor-freight industry, the bulb quarantine of 1926, and growth of the industry among Dutch-Americans along the North Carolina coast. Tractor-trailer rigs reached out to expand the market to Philadelphia and New York and probed ever further south for earlier blooms. The bulb quarantine brought M. Van Waveren's bulb farm from Holland to “Auburn” and installed Charles Heath as manager. “River's Edge Farm” entered into the bloom and bulb trade for Mr. and Mrs. Snowden Hopkins, and Virginia bulbs were in high demand for the wholesale trade, now denied by the quarantine. More and better varieties were planted in better land, and tended with consummate care. In North Carolina, Mynheer Leenhardt Van Staalduinien emigrated his family to “Terra Ceia Farm” near Pantego, and planted everything he could remember from his beautiful Holland. Near Wilmington, the Van Dorps, Oosterwycks, Bracks, and Van Gyzzens (and others) were doing their thing with both blooms and bulbs; and Allan Hicks and Sidney Barendz carried daffodils into South Carolina near Hilton Head. Eventually, Hicks extended his plantings north

into Maryland and Pennsylvania, and learned to migrate with the spring geese—and to converse in Pennsylvania Dutch. Things began to blossom.

With the accumulated momentum of the pioneer and a natural (Easter blooming) advantage, Gloucester and Mathews counties in Virginia continued to dominate the daffodil business along the coast. Trumpet Major was still grown, but had long since passed its crown to the undisciplined English head of Sir Watkin, then Emperor, and finally, the golden King Alfred. Among the proud conservative people of these counties, competition thrived—and quality flourished. The Hicks, Hudgins, Mickleborough, Janney, Hopkins, Garret, Field, Soles, Sutton, Tatterson, Heath, Jones, Walker, Gayle, Healy, Kemp, Emory, and a hundred other families vied for advantage on the market. Every likely new variety was tried, and cultural experiments were as numerous and diverse as the growers. Someone (probably George Heath) replaced rags, raffia, and string ties with a marvelous invention called the rubber band. Shipping containers evolved from laundry baskets to slat crates, and finally, to Allan Hick's fiberboard carton, which is universally used today. Planting, picking, bunching, watering, and packing operations were subjected to the most demanding standards—and were the topics of many heated discussions in field and packing shed. It has been said that some fathers cared more about how their kids "laid up" a bunch of King Alfreds than their grades in school. (Who ever heard of going to school in flower season, anyway?) No question about it: King Alfred was king, money was made, hard work had produced reward, and everything was in its place—when World War II intruded into the consciousness of the country.

Wartime conditions cut off the supply of foreign bulbs, restricted transportation and the commodities of production, and severely limited the most critical production factor—labor. Van Waveren had closed his bulb farm when the quarantine ended in '37. His manager, George Heath (Charles's son) was continuing the operation as "The Daffodil Mart," and Mrs. Selena Hopkins, now widowed, was running "River's Edge Farm" with her daughter, Rebecca. The market remained good throughout the war; and those that could produce, prospered.

With the end of wartime restrictions and shortages, daffodil growing was resumed with a vengeance! New plantings were established everywhere with whatever proved practicable in the way of mass-production and mechanization. A New York firm constructed a facility and opened "K & R Wholesale Florists" within a stone's throw of Mrs. Smith's trumpet beds at Nuttall. Both of the Hicks brothers and Lloyd Emory put up greenhouses and forced daffodils into bloom for St. Valentine's Day, then New Year's, and finally, Christmas. Over at Cobb's Creek in Mathews, Howard Hudgins and his partner, Douglas Thomas ("M & G Transportation Co.") rose to the occasion—in spades! They built a large cold room in their freight terminal, and acquired facilities to process daffodils by the thousands of boxes daily. They freighted practically all blooms shipped in the area, buying and brokering on opportune occasions. Ultimately, they expanded to the "K & R" building at Nuttall when that firm closed out. With increased production, came more cold rooms, and, naturally, more production to fill them; it was individual free enterprise at its best—or worst. It is ironic that this condition was reached just as Dutch hybridizers had produced Flower Carpet, the ideal variety for the American market. More prolific than King Alfred, and earlier than Carlton and Emperor, it had proven its claim to the crown.

Markets were soon overwhelmed and prices dropped drastically (in relation to the inflation). At first, it was viewed by many as a transient condition which would right itself—but it didn't. Trade associations were organized in Virginia and North Carolina, and state bureaus assisted with marketing and quality control programs, but the over-production was simply too great for the market to bear. As prices fell, expediencies arose. Mostly, the expediencies were aimed at cutting the cost of production, rather than the over-production. Understandably, no one was willing to sacrifice a freshly-bloomed field of King Alfreds in the hope that the market would improve for his Emperor patch. Nor was anyone eager to plow up bulbs to plant corn at 75¢ a bushel, so the stalemate continued for a time—but cultural practices didn't. Bone meal and fertilizer were withheld, cultivating was abandoned by many, replanting was rare, and off-season maintenance was limited to one or two "bush-hoggings" in the early fall. Bulbs grew smaller, multiplied, and produced smaller blooms for a demoralized market. At the peak of this fiasco in the mid-sixties, thousands of boxes were dumped at the markets, others brought as little as \$2 per box, less commission and freight, in that order. On some occasions, they were returned to the grower intact, on the same truck that carried them away—round trip freight and no sale.

A sad situation, compounded by rising inflation; but the best was yet to come—increased competition from high quality blooms off the west coast. And all kinds of other cut flowers from Holland, Egypt, Israel, Central and South America, and Hawaii. Fast, inexpensive air and motor freight had found a way to shrink the globe—and break the camel's back. One by one, and with great reluctance, the old timers gave it up. "Old" timers—because there were no young ones to give it up; changing values and life-styles had led them on to other things.

The Hunts still cut blooms and retail bulbs at "River's Edge," and Brent Heath does a lively retail business in novelty bulbs (including some of his own hybrids) over at the "Daffodil Mart." And, down at Pantego, "Case" Van Staaldin cuts blooms by the million and wholesales bulbs by the ton. Allan Hicks, now 84, clears a large crop of flowers and bulbs each year, and says he'll continue "until he gets too old." And, among a couple dozen other growers, the business clings to life. There is cause for optimism; the energy crunch and soaring inflation have done nothing to shorten the distance across the continent or oceans. This trend has been reflected in sharply rising prices for imported bulbs and west coast blooms over the past couple of years. And, amidst the recession gloom, the words of an old friend come to mind: "Jonquils were a 'hard times' flower—people will buy 'em when they can't afford roses." Domestic bulbs will continue to sell well, and there seems to be room now for good blooms in New York, but it's an open question as to where the little industry will go. Daffodil growing is, at best, a risky gamble, spiced with hard field work under adverse conditions. A far cry, it seems fair to say, from the "American Dream" that grew out of the great depression—but harsh realities are now upon us. It well may be, that the "sweat ethic" will return to our land, and "the tough will get going." All around us, we see intelligent young fellows (and their wives and kids) struggling with chain saws, splitting mauls, and pick-up trucks to cash in on the rising market for firewood. Perhaps, as material abundance decreases, the value of human resources will rise; and to those who find joy in physical labor, and whose spirits respond to the eternal productivity of our Earth, the daffodil will beckon.

But, for those of us who still recall the flavor of the sights, sounds, and people that enriched "flower season" in Virginia and Carolina, an era has ended. Still, habit—and dreams—die hard. In February, we contact our customers and pickers, check the equipment, and inventory supplies. In the cold silence of the packing shed, we reflect on the past, and dream of that fortune we're going to make—come blooming time!



MINIATURE DAFFODILS AND BLACK PUSSY WILLOW

POLLY BROOKS, *Richmond, Virginia*

Miniature daffodils teamed with the unusual and mysterious Black Pussy Willow proved to be a double eyecatcher at Virginia's Executive Mansion. The official residence of the Commonwealth's governors and their families since 1813 is the oldest house in the United States in continuous use by the governors. Four Presidents have lived here: Jefferson, Monroe, and Tyler as governors, and William Henry Harrison while his father Benjamin Harrison was governor.

The miniature daffodils, as well as the large ones, have become a regular in this old historic home seen and admired by many. Miniature daffodils used with the black pussy willow was the topic of much conversation last spring. I was delighted to tell about this unusual willow which brought me so much excitement and enjoyment when I bloomed it for the first time, never having seen it before and not knowing what it was like. It was described by a daffodil friend from Maine who sent me the cuttings as "black catkins tipped with red that look like Hessian soldiers." She wrote that she brought cuttings from England which she first saw at a Royal Horticultural Society Show in London. As the pussies age the yellow-green contrasts with the red creating a most unusual effect and complementing the yellow and green of the daffodils. Because my plants were yet small with only small short twigs bearing small catkins, I did not have enough to use with the larger daffodils. I hope to do so in 1981.

Arnoldia (Arnold Arboretum, Jan.-Feb. 1978) states that this *Salix melanostachys* has been cultivated for years by Japanese but that its origin is unknown. Their original stock came from Kalmthout Arboretum in Belgium in 1971. It is still rare here and not readily available unless you have a friend who can spare a cutting.

Interestingly, but not surprisingly, many daffodil growers grow other horticultural goodies as well as daffodils. Several years ago at a daffodil show I became re-acquainted with Rabbit's Foot Fern (*Daffodil Journal*, March 1975) which I find so very useful with miniature daffodils. I now use it year around in all manner of arranging flowers. I know of no other fern that does as well in epergnettes. Last August it came in handily in decorating for the wedding reception at the Mansion.

Try the black pussy willow with daffodils. You'll love it.

A MATTER OF INCHES

DAVE KARNSTEDT, *W. St. Paul, Minnesota*

(from *Tete-a-tete*, newsletter of the Daffodil Society of Minnesota, May, 1980)

Supposedly, it's the ill wind that, as it blows along, doesn't deliver at least some good, somewhere along its path. The summer and fall of 1976 in southwestern and central Minnesota were "dust bowl" dry. In July, it stopped raining, to be followed by the worst winter in a century and the earliest spring in three decades. As odd as it might seem in view of those conditions, I had the best daffodil season I've ever experienced in my garden.

In 1976, the fall rains never came and I found myself heeding Harry Tuggle's advice to give your daffodils one inch of water a week. That turned out to be sage advice when combined with the fortuitous occurrence of an unseasonably early spring.

My daffodil season began with *N. asturiensis* in late March, peaked in late April and provided me with tall stems and flowers of deep color, thick substance and exemplary smoothness. Normally, peak bloom is compressed into the third week of May. The 1977 spring, because the season was so early, was much cooler than usual and I didn't suffer the expected loss of color from heat and low humidity. I'm sure that I can attribute the wonderful performance of my flowers that spring to, in the main, all the water the previous autumn and early that spring, although the earliness of the season was a major contributing factor, too.

I've known of Harry's "Inch a Week Rule," but usually relied on natural rainfall with only an occasional supplement from the hose. With no rain in the autumn of 1976, all water applied to the daffodil beds was from sprinklers. In all, that water amounted to more than twenty inches.

The standout flower of the season was easily the Richardson 1 Y-Y Banbridge. I've grown it for many years, only to be disappointed each spring with small flowers and, as often as not, flat sided trumpets. On several occasions I nearly discarded it altogether, but I kept remembering the superb flowers of Banbridge I've seen, growing in Oregon. I continued to hope that maybe—just maybe—it'd be my turn next year!

That spring, I sincerely wished I had kept all those bulbs I'd given away, because Banbridge put on what can only be described as an Oscar-winning performance! Although only six bulbs long, the three-years-down row produced sixteen superb flowers—with the additional bonus of being first out in my main planting. Surrounded by inch wide deep blue-green foliage, the stout, two foot stems bore aloft the largest, smoothest, thickest-substanced, most brilliantly colored deep-golden yellow trumpets I've ever seen my plantings produce. Impressive? You bet they were! I feel they fully deserve some flowery descriptive prose, although I'm not sure that I would want to sit by and wait another twenty years for what just may turn out to have been a once-in-a-lifetime performance.

The autumn of 1977 has had record, or near record, amounts of rainfall. What results will be achieved next spring remain to be seen, of course.

If it's dry, you can believe I'll be pouring on the water! Sometimes, as I sit musing on daffodils during the winter months, I can almost see Harry's smiling face and hear his gentle admonishment, "Remember, outstanding performance is always a matter of inches!"

Rathowen daffodils



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DAFFODILS IN NEEDLEPOINT

BERNICE G. FORD, *Clifton Forge, Virginia*

Photos by DR. W. KENT FORD, JR.

My first piece of needlepoint was done when I was a bride many years ago. It was a French piece, double thread canvas with a painted design. All the threads for the design, some of them silk, came with the piece. The saleslady advised me to use the Continental stitch and showed me how simple it was. The color of the background was left for me to decide. Most of the needlepoint I had seen at that time was done with a black background so I selected black and have regretted this ever since. Now my fireside bench and matching footstool are a rusty black while the silk threads are still lovely in shade.

Later I learned the Basket Weave stitch and prefer it to any of the many other stitches. I have also learned that backgrounds are very important to show off the design. There are so many different shades of color to choose from.

When I became interested in putting daffodils on canvas, I could not find any in the needlework shops. I gave a cover of one of Richardson's catalogues to a shop owner who designed the pillow in picture number 1. The pillow in picture 2 is from a kit.

The bag in picture 3 was designed by The Jolly Needlewoman, Kenneth Pike, Chadd's Ford, Pa. The bag in picture 4 was from a local artist.

The bag for Laura Lee Ticknor was the first I ever tried on my own. The pictures of her favorite daffodils were cut out and transferred to the canvas. The wool used was as near the original color as possible. Doing it was the most fun and gave me the most pleasure because of the one who would carry the bag.



Figure 1

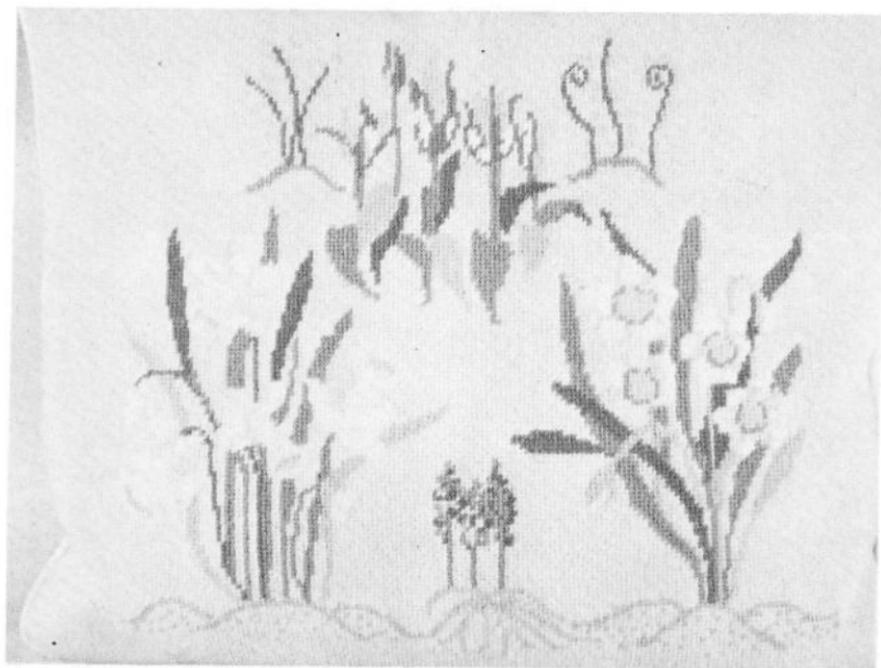


Figure 2

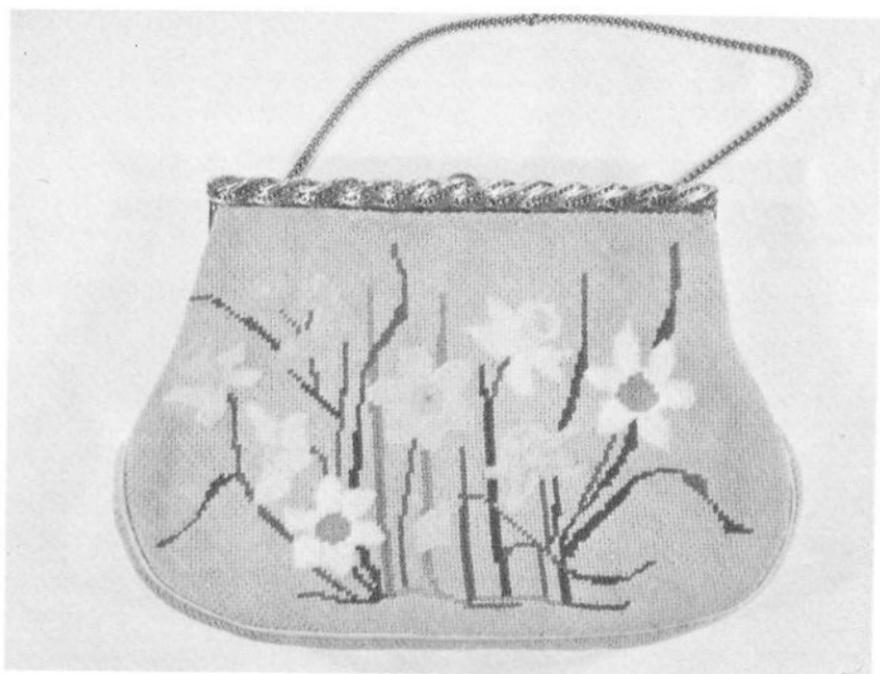


Figure 3



Figure 4

THE INCREDIBLE TALE OF THE DAFFODIL POCKETBOOK

LAURA LEE TICKNOR, *Tyner, North Carolina*

Photos by SUSAN TICKNOR

Several years ago we visited Bernice Ford in her home overnight and while sitting around the fireplace I admired the needlepoint piece on which she was working. The conversation went back and forth and she volunteered to design and make a needlepoint bag for me. I would select size, background color, and certain daffodils to be featured. Eventually I settled on Suzy (for obvious reasons), Rockall, Perimeter, Festivity, and Falstaff, all tried and true favorites of both Bill and me.

In time the piece was finished and to say I was overcome with the beauty and with the fact that it had been done just for me with such devotion and care is an understatement. I have carried the bag with great pride and delight on many occasions as some of you may have noticed. I have even been accused of being purse proud!

In the fall of 1978 the Middle Atlantic Region met in Williamsburg. Bill and I are always happy to accept an invitation to be with this group so we made our plans accordingly. Daffodil bag went into the suitcase, was carried, but then its adventures began. In packing up to go home on Sunday, somehow the bag was overlooked. I feel it must have slipped under the bed or behind a chair because it was not visible.

Several weeks later I looked for the bag to carry to a local party. It was not in its usual drawer, so the whole room was torn apart and searched, all closets and drawers in the house got a good turning out, even the suitcases carried to Williamsburg were checked again. No bag! I was broken hearted—and somewhat hysterical—but my main concern was how would I ever be able to explain to Bernice that I had lost my treasure.

All winter we talked about the bag, where was it, how could I have been so careless, and what on earth would I tell Bernice when we saw her again so soon?

On Valentine's Day a friend from Edenton called and said, "Laura Lee, I have the most incredible thing to ask you." She had a turquoise blue, needlepoint bag with daffodils and initials LLT in her hands as she was talking to me. My immediate reaction was, "Maxine, how on earth did you find my bag?" A couple of questions from her satisfied her that it was indeed my bag, although she felt sure even before she called that it was mine. She had seen it briefly a year before.

A bizarre tale unfolded. Over the previous Christmas holiday, a native of Edenton had gone to Florida. She liked hand made things and flea markets so when her daughter suggested they visit a Junior League sale she quickly agreed. Lo and behold, in St. Petersburg, Florida, she bought a beautiful needlepoint bag with daffodils on it. She brought her bargain home to Edenton and decided she really didn't want to carry it with those initials on it, so she took it to a friend who does needlepoint to see about having the initials covered in some way. Fortunately the friend didn't have the right color of magic marker so she went to my friend Maxine to talk about it.

Maxine recognized the bag and called me. Think of it, though, a trip somehow from Williamsburg to Florida—how? the maid? the next occupant of the room?—then back to a town of 5,000, seventeen miles from our home. What are the odds against the bag traveling to Florida and somehow coming to Edenton, North Carolina? There has to be a guiding hand in there.

My first thought was to dash into town and claim my treasure but that was not yet to be. The person who had been asked to change the initials told me a little bit about the person who had brought the bag to her. When told that the bag in all likelihood belonged to someone out in the county, she bristled, "But it is mine now. Finders Keepers!" She thought a new kit could be bought and easily redone. Explanations that it was a one of a kind design seemed to fall on deaf ears.

A month passed, and many conversations ensued. Bill said I should face the woman and demand my property but I hate a scene so we bided our time. One evening as I was cooking supper the phone rang. An unfamiliar woman's voice said, "Is this Mrs. Ticknor who lives out in the county and grows daffodils?" I answered, "Yes," and she replied, "I think I have something of yours." I knew at once what she was talking about. We talked some more and she allowed as how I could have the bag whenever I wanted to come pick it up. I said we would be there in two hours. Bill said we should have gone at once—dinner could wait. I could hardly believe my ears!

I guess we ate dinner but I know we were on her doorstep at the time I had said. When she opened the door, I could see the bag on the table. Almost too good to be true!

She told me of buying it in Florida but refused to tell me what she had paid for it saying, "You know how cheap things are at flea markets and you probably would be offended." Eventually she agreed to a reward and I left with my bag.



A couple of weeks later after church someone I knew only casually came up to me and asked, "Did you get your needlepoint bag back?" I answered, "Yes," and she said, "Good." It seems the bag had been carried to a local bridge club and this lady recognized the bag, having seen it and commented on it at a party. Being very forthright she said "How and where did you get Mrs. Ticknor's bag?" Apparently that was all that was needed to return the bag to me. The bag was in perfect condition but I wish it could talk and tell us of its adventures.

BREEDING OF DAFFODILS AND GAMECOCKS COMPARED

John Lea's article on breeding daffodils, in the June issue of the *Journal*, was fascinating to me for the parallels between his breeding of daffodils and the breeding of gamefowl. I had known of course that genetics is much the same for plants and animals, but it was amazing to see Mr. Lea itemize points of breeding daffodils which are precisely those advocated by the best gamefowl breeders. Here are some of the similarities:

(1) Gamefowl breeders agree generally with Mr. Lea's opinion that the best results come when there is a common parent somewhere in both sides of the pedigree—that a certain amount of line breeding or inbreeding is desirable. The exception to this is when an outcross is made, in which instance the consensus is that at least one side of the pedigree should be closely bred (inbred).

(2) Mr. Lea as a rule uses his seedlings for parent, not the prize-winning cultivars which have a long history of winning on the show benches. In gamefowl breeding, we have found that young stock produces better offspring than do older parents, with an individual chicken becoming less valuable as a brood parent with each passing year. Youth on at least one side of a mating is considered essential among gamefowl breeders.

(3) Gamefowl breeders are in total agreement that choosing the right individual to breed, not one of its full brothers, is the height of the art of producing good fowl. We want all of the family of the individual selected for the brood pen to be of high quality. (We do not breed an ace cock whose brothers did not show high performance.) But we find repeatedly that full brothers produce differently, even when bred to the same hens, and even in a closely bred family.

(4) The similarity which surprised me most is Mr. Lea's experience in finding that the same parents produce a higher standard of daffodils one year than they do another year. We see this happening in our breeding of gamefowl and cannot explain it. I really had not expected this incomprehensible truth of gamefowl breeding to apply to daffodil breeding.

I feel that principles of breeding which have been found to apply to both daffodils and gamefowl must be basic ones to genetics and that to deviate far from them is courting failure.

—GEORGE W. WOOD, JR., *Northport, Alabama*

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COLOR CODING RE-VISITED

TOM D. THROCKMORTON, *Des Moines, Iowa*

Currently the great and near-great of American Daffodildom are engaged in re-writing the *Handbook for Exhibiting and Judging Daffodils*. And in certain respects, the verb "engaged" is more like "in battle" and not like "in marriage." The question seems to revolve about a requirement to "adequately label" all entries in certain classes of daffodil shows.

This rule doesn't bother me a bit, since Jean and I can seldom find a daffodil competition which is in step with our season. However, I do realize some of the frustrations of the major exhibitor with a station wagon filled with daffodils, staging materials to be located, blooms to be selected and manicured to perfection—and a jillion name and classification cards to be made out and properly distributed—all the while working against time and haunted by the thought of a prize winning exhibit invalidated by a spelling error or goof-up in classification.

Then, there are the judges: working against a tight schedule, confronted by a choice amongst varieties, several of which may be unfamiliar. To stop the proceedings and thumb through *Daffodils To Show and Grow* is aggravating, time consuming, and entirely unnecessary if the entrant had only identified his bloom with something other than a name. It's the exhibitor's flower and, by the ghost of old Engleheart, he or she should be able to identify it before exhibiting it.

And that's about how things stand!

Now, as they say in music, here is the time for a reprise.

In 1960 a sort of color-code was worked out to provide a description of daffodils to a color blind computer. The "classification" implicitly identified the color of the perianth; the color-code, in a general way, described the corona. This worked very nicely and allowed the computer to provide a fairly adequate color picture of each cultivar. In 1969 I presented this material to an audience of RHS daffodil aficionados. They stifled yawns politely and in nowise allowed the color-coding to intrude upon their digestions. Perhaps the whole idea would just go away!

Nonetheless, color-coding just kept turning up, as practical ideas often do. Once again in London, in 1973, the RHS Daffodil Committee considered color-coding and agreed to its adoption as ancillary to the classification—but in nowise as a part of the classification. It was specifically spelled out, at that time, that the color-code need not be required at daffodil shows, except as the Show Chairman might decree. The modification made in the color-code by the RHS made it quite awkward and not a very useful item. For instance, Arctic Gold was 1AYYY.

Then Bill Ticknor got into the act and published a plea for a simplified classification system. Since the computer was already based on a classification any normal ten year-old child could readily understand, it was submitted. In truth, it merely substituted a perianth color for the previous meaningless A's, B's, C's, etc. and appended a simplified color-code for the corona. Now Arctic Gold became 1Y-Y.

This new classification, together with some fiddling among the doubles and poets, was approved as the official Classification of Daffodils by the RHS and is used as such by its registry. So, in fact, there is no longer an appended color-code to be ignored at the will and pleasure of a Show Chairman.

Looking at this whole affair from a little distance, it seems to me that we have both simplified and perhaps complicated the life of the daffodil exhibitor. Now he has a meaningful classification which tells him something about the flower he is buying or exhibiting. And yet his existence is complicated by having to take enough time to identify each of his show pieces properly.

As for judges, they become frustrated, too. Weather, culture, and genetic factors make strange changes in daffodil colors—and against what standard do they judge a particular entry? It's nice if the entry tag reminds them; or do they stop and look it up?

The saints preserve me from having to make the ultimate decision in this matter. There are even some who might hint that I've caused trouble enough. However, from a distant view, it seems to me that an exhibit in single or three stem classes might well be properly classified by the exhibitor—these classes are likely to contain the newest and most novel things. Such blooms are of greatest interest to the show-goer, and one has only to look about an exhibit hall to see the making of next fall's daffodil order list.

On the other hand, in collections of more than three stems, the competition, while no less keen, is of lesser interest to those of us trying to identify new or sought-after varieties. Perhaps in these larger collections, the simple identification by name is enough. Most such exhibition classes place ready-made constraints upon division and upon perianth color; thus, the classification is less needed, even though blooms may differ widely.

But finally, I must remind you that there is no longer any such thing as a "color-code" in the daffodil world. The "color-code" died in 1975 when the RHS approved the current daffodil classification. Thus, color-coding is out! The problem now is the simple one of whether or not to classify blooms in a daffodil show. I'm certainly glad I don't have to decide *that one!*

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CHARLES APPLGATE, *Perrysville, Ohio*

(from *Narcissus Notes*, newsletter of the Midwest Region, March, 1980)

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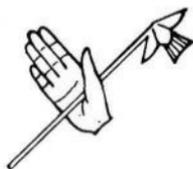
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HYBRIDIZING

(What follows is a transcript of a phone conversation between Bill Pannill and Johnny Tarver which Dr. Tarver presented at the Middle Atlantic Regional Meeting in 1978. Thanks are due Susan Ticknor for transcribing it.—Ed.)

TARVER: Let's talk about hybridizing. What's the difference, if any, between cross-pollinating and hybridizing? I know the people that grow roses talk about hybridizing and we usually talk about cross-pollinating.

PANNILL: Well, I think cross-pollinating is just the act of hybridizing, the method by which you hybridize. That would be my definition of it, because actually sometimes you don't cross-pollinate, you just self-pollinate, and that's hybridizing, too.

T: Right. How do you go about it, Bill?

P: Well, I use tweezers to pull off the anthers and put them in a capsule which I put in those little coin envelopes, labeled as to what each capsule is. Then I use a brush to put the pollen from the capsules on to the stigmas of the other flower. But that's just what I do generally. If I'm out at the right time of the day, and I see two flowers I want to cross, I might take the tweezers, pull the anthers off, and rub it on four or five blooms that I want to use to make that one cross. I don't need the pollen for other blooms, so I don't go through putting it in the capsule and all that.

T: You said "If I'm out at the right time of the day . . ."

P: Now, I think you have better luck if you cross them when the stigma is wet and sticky. Your pollen will stay on better, and the flowers seem to be ripe for the pollen grains to go down to the ovary. I've heard other people say that when the bees fly, that's the right time. Well, the bees are out there because there's juice and nectar on a lot of the flowers, and when this nectar is on the end of the stigma, that's the time the pollen will hold on to it, and you can cake it on better. But I wouldn't say that that is the only time to do it.

T: Would you say that the best time is usually midday on a hot day?

P: Well, it doesn't have to be too hot a day. I would say it's not as much the time of day or temperature, as it is the age of the flower. When the bloom first opens, it very seldom has that nectar, and it has to mature a little before the stigma seems to get ready. Then once the sun has hit it after it's been that way it forms sort of a scab on it, and I don't think you have much luck after that scab forms. You might pull it off. Some people have even used a razor blade to cut the scab off, put a drop of honey or syrup on there and then put the pollen on that. But I think that's a lot of trouble, and usually when I'm pollinating I get almost to where I hope they don't set seed. You know you're going to have so many seed and so many seedlings coming along, that you really are asking for divine guidance and saying, "Lord, let this one set if it's going to be something good, but if it won't be, don't let it set." So I've made crosses that I was almost sure wouldn't set, and they didn't, but I went ahead and made them anyhow.

Now, out in Oregon, on the crosses I've made at Murray Evans's, I'd get much better results, even though I might have made them while it was raining. You might have to do that out there, because you don't get all that good weather, although he waits until he does get some good weather. His flowers will keep a week or so in good condition, so you can pollinate them any time within that week; whereas here in Virginia, between the hot weather and the dry weather, I'd say we're lucky if we can do it within one or two days.

T: So usually, in our part of the country, what would you say that the best time would be after the bloom has opened—maybe a day and a half, two days?

P: A day and a half or two days, I'd say would be the best.

T: Of crosses that set, what is your percentage, roughly?

P: Now, normally I cross anywhere from three to twelve or fourteen blooms. My percentage of ones that actually give me any seed would be somewhere around thirty to forty percent. It may get as high as 50%. Some years are better than others. But that doesn't mean that if I made a cross of twelve, that all of them might set seed. I might get eight out of the twelve. But usually if one of them does, most of them do, and some cultivars do much better than others. I might use pollen that's no good and make fifteen crosses with that pollen and none of it would set.

T: You mentioned taking off the anthers, putting them in a capsule, and then into an envelope. Now, if you especially want to use that pollen, how long have you found that it's usually good for, and do you take any special steps to preserve it?

P: Well, originally I used a dessicator, refrigerated it, and I didn't really notice any difference than if I just left it in the basement in a box where it would dry, and didn't let it sit out in the sun to get too hot. I'd say it would be good for two or three weeks. Sometimes people freeze it and keep it for the next year and say it's still good. But that could save a lot of time and trouble, because very often at the end of the season when I'm picking the pods, I see that of all the crosses with, for example, Pollen "X", none of them set, so it had to be the pollen. Then I'd find that another pollen I used, maybe I made ten crosses with it and eight of them set, then I knew the pollen was good. It just happened in two of them that I got there at the wrong time or things weren't right at seed time.

T: You know, through your generosity, I've been using the pollen from your show flowers for the last two years.

P: Well you've said you had fair luck with them. This disputes one thing that has always been told us, and that is this thing of having to keep your pollen so dry. As you know from those shows, those flowers were refrigerated and misted every day in a damp refrigerator before the show. Then at the show they were misted six or seven times. And yet the pollen—enough of the grains—was still good to give you some seed set, right?

T: Right. Well I have used your pollen up to three or four weeks after the show, without refrigeration or dessication, and gotten very good results as compared to the other crosses I've made from flowers in my garden. I get a much better percentage from your pollen. Maybe your exceptional flowers just produce very fertile pollen.

P: Well, that could very well be. Now there again, Dr. Bender once gave a little talk, and he pointed to a field at his farm in which he'd planted a bunch of daffodils that were leftovers from his garden at home. The field had been in corn the year before, and had some kind of insecticide or herbicide on it that really killed the daffodils after the first year. Well, he said, with Festivity, twenty-five of twenty-six blooms set seed, open-pollinated. He didn't pollinate any of them, but twenty-five of them set seed. And then the bulb died, which I've heard of before, too. Often an injured bulb will set seed. It's nature's way of saying this year the bulb is going to die, therefore it had better propagate itself through seed. So you normally don't get much open-pollinated seed and we have hardly any. Maybe out of a thousand flowers two of them open-

pollinate around here. So that's another reason I don't worry about de-anthering the ones that I pollinate, and I don't worry about covering them up to keep a bee or something from getting to them, because I have spiders in almost every daffodil that blooms and those spiders work back and forth fusing the pollen from itself from the anther to the stigma and I don't get seed from that.

Also I've said this before, but I think it's important, and that is that most people agree that daffodils are self-sterile. If you want to self a flower you get pollen from one next to it, don't get it from the same bloom. Get the same cultivar but get a different plant. And for some reason that gives you much better results than if you try to self it. Many times I've had a new flower, like Sabine Hay, that I didn't have anything to put on it, so I tried to put it on itself and I've never gotten any seed that way. I'm not saying it won't do it, but I've never gotten any seed using the same bloom on itself. I've gotten plenty of seed using another bloom of the same flower, which again gets back to that it's too much trouble to de-anther the flowers. The only time I de-anther them is when I need the anthers for pollen.

T: And you do not use any protection for cross-pollination?

P: No, no protection. The only time I've ever used anything like that would have been when I'd have to be out of town during the collecting time, when the flower was getting ripe. I have used a nylon scarf cut into little squares and tied around a pod so that if it popped open while I was gone the seed wouldn't fall on the ground.

T: Right. But that's for catching seed, not preventing open-pollination. Bill, you mentioned using a brush at times to apply the pollen. After you make one cross . . .

P: I lick it.

T: You lick it. Oh. How does it taste?

P: I don't taste it. I just clean it off in my mouth and then I've got several brushes, so I put it back in my pocket and try to use a dry brush each time.

T: Ok, about how many brushes are you carrying around with you?

P: Oh, two or three, and they dry fairly fast. And if they don't it doesn't really matter, because the stigma is damp when you put the pollen on, and you need some dampness to get the pollen grains to swell and grow.

T: Well, I've been using one brush and taking along a glass of water, and rinsing it out each time, so my brush was always wet.

P: I use real small brushes and you can squeeze the water out of it. I don't think it really matters; if it's wet, it'll help you pick up the pollen.

T: It's easier to pick up the pollen, but I get to wondering, "Am I getting three or four kinds of pollen mixed up together?"

P: Well, I don't think you are, not if you wash it real good and theoretically that water is supposed to kill the pollen anyway.

T: Oh, is it?

P: Well, you know you're supposed to keep the pollen dry. I don't mean it kills it like a disinfectant would or something like that.

T: But if I pick up pollen to put on another daffodil and the brush itself is wet and some water gets on there, it might not be so good. Would I be better off with a dry brush?

P: Well, possibly. However, there again I get back to that old feeling that if that happens, it was meant to happen, and you might get a better flower than if the pollen was the one you meant to use. I realize it's nice to know exactly what pollen you're using, but a stray grain that got on there somehow may set

a seed, and you might end up with a great flower from that one seed. It isn't going to make the computer blow up if it got the wrong parentage. I guess I'm saying, what difference does it make?

T: Right. How long does it usually take, where you live, for the seed pods to ripen and produce seeds, and how do you know it's the right time?

P: Well, I usually make my crosses anywhere from March 20 up to the first week in April. That's usually my season. I usually have finished collecting the pods by the first or second of June. I'll start collecting them over a period of ten days, from the third week in May through the first of June. They turn sort of yellow, and the old flower part will fall off if you touch it. By that time usually you can shake the pods and hear the seeds inside. I would pick them then and go ahead and let them continue to ripen inside where they won't fall on the ground if it split open. If you were to burst them open at that time, you would find that some of the seeds were loose, but you would have others that were still attached.

T: Would you describe what a mature seed looks like?

P: It's black, and not always shiny, because it's shiny when it first ripens, but after a day or two it will get a dull glossy look to it. But you get some that have sort of a grayish-white look, and they're not going to germinate. They came loose.

T: So those are the eggs that did not become fertile to produce seeds.

P: No, the ones that don't become fertile turn into that little powder that you get, the tiny white stuff. These became fertile but didn't go through the whole term. You might say they miscarried.

T: But the only ones you bother to plant are the round black ones.

P: Some of them aren't actually round. Some of them might be almost in a pyramid shape or something, and that's because they were crowded into the pod, especially some of the jonquils. If you have a pod that's really full of seed you get a lot of distortion. But the little flat black ones that have no body to them, I don't bother to plant those, although it doesn't hurt to drop them in there.

T: What do you put the pods in, envelopes?

P: It depends. I might put them in a paper cup or a box. It depends on how many pods I've got. If I've got about two or three I put them in an envelope. If I've got twelve or fourteen, I'll put them in a shotgun shell box or a paper cup, but I put something in there to tell me what they are, of course.

T: A number or something, probably.

P: I usually write the cross on them. Now that's something else I don't do. I don't tag them at all when I make the cross. I don't put any tags on them. What I do is write in my book because all my daffodils are planted in beds and therefore I write in the book Bed 2, Row 14, and then I write Kilworth x Arbar, first four blooms.

T: So your beds are laid out in such an organized fashion and so well mapped that you know where everything is.

P: Where everything is, so I don't have to tag them.

T: I wish I could say that! I have to put tags on mine. Let's say you've finished harvesting your seeds. When do you plant them and what do you plant them in?

P: Well, if I were planting them here I would plant them the day or the week that I harvest them. When I did plant them here I would plant them in a flat made out of redwood that was about eight inches deep, and I'd try to get about eight to twelve inches deep. I'd try to get at least six inches or more

below them and then I'd just put the seeds on the top of that soil in a very organized way, because I'd want to plant as many as I could in that space, about an inch apart. Then I'd cover that with about a half inch of soil and keep them damp. I'd use this potting soil that you buy at the store, and the reason I wanted to leave six inches under them was, if I left them in there for three years, by the third year some of them would have been pulled all the way down to the bottom. You see they've got that one big root in the center that goes down and pulls them down. It's almost as big as the bulb and it pulls them down each year, so you have to plant them shallow, so when you dig them, they'll be four or five inches down.

T: So you do not recommend the regular florist tray, you recommend putting them in the ground.

P: Well, it depends on when you're going to transplant them.

T: It's a lot less work than messing with the florist trays, isn't it?

P: Are you talking about the flats like I was just talking about?

T: No, I'm talking about something that has a bottom on it.

P: These had a bottom on it.

T: Oh, they did?

P: Yeah.

T: Well, what I'm thinking about is what the nurseries sell, about two inches deep.

P: Well, you're going to have to practically transplant them the first or second year because they're not going to have any place for their roots to go.

T: Are you usually able to wait until you have a bloom before transplanting?

P: No, they definitely need transplanting by the third year, and what we do is about the tenth of June I mail my seed out to Murray and he'll plant them anytime. He'll plant them sometime in the summer. He plants them directly into the field, but not where they're going to bloom. He makes a bed and then plants them outside in a fairly thick row. Then he leaves them down two years. After that, he lines them out in the field and lets them bloom there. He gets a little bloom, just a very little, the fourth year. He gets quite a bit of bloom the fifth year, and by the sixth year he figures they've all bloomed, and any we haven't selected by then he gets rid of.

T: Bill, when you were talking about planting them in a flat eight to twelve inches deep, it sounded to me like you carefully placed the seeds on top of the soil.

P: What I did was pack the soil down and actually use tweezers to put the seed down in there.

T: Ok, so you didn't dig a hole to put the seed in.

P: No, because then, after I put the seed on the top of the thing and got it just right, then I put another half inch of dirt on it.

T: Alright now . . .

P: And I had to keep these protected from squirrels, moles, birds, and things like that.

T: Would you put a mulch on top of it then?

P: No, I just put a wire frame over the tops of them.

T: And let it go to weeds?

P: Well, no, you see that potting soil is sterilized so you don't get many weeds the first or second year. Then in the third year you're going to dig them anyhow. I try to keep the weeds out of them, you've got to pull the weeds out before they make the big roots or you'll pull up the little bulblets with them.

T: I've got a problem. I've got a big flat of seeds and it's covered over with weeds.

P: Well, I'd cut the weeds as close as I could and try to mulch them and keep them out. What Murray does is to put a heavy decomposed sawdust mulch on his. They don't recommend that around here because they say it robs your soil of nitrogen, but he does that to keep weeds down, and so when he does get small weeds he can just hand weed them and pull them out.

T: What about fertilizing the seed?

P: There again, I never fertilize them. He uses a fertilizer out there, something like this "Blue Whale" on the seed beds. I haven't used any fertilizer on this other stuff because the soil is supposed to be enriched.

T: Last summer, I visited someone and they said they were using your method of mulching their regular beds, not the seeds, and that was the "weed mulch."

P: For during the summer, yes. I've got the pine needles on them during the winter and spring, blooming season, and I let them grow up in weeds and pull the weeds off in September, and fertilize them. I put on enough fertilizer to make up for what the weeds took out.

T: If somebody has not made any crosses yet, and they don't have a lot of expensive bulbs, what reasonably available cultivars would you suggest for a beginner in hybridizing?

P: Well, I'd say any of them are good, because most of the ones you get today have many generations behind them of things that have proven good in later progeny. But what I would suggest to someone who's got limited space and little knowledge of it is to try some crazy crosses. That is, say a pink and a reverse bicolor, and maybe even a pink and a red cup. You get some bad ones, but you might get some good ones. I'd also suggest to try using the species on the standard cultivars. Most of the hybridizers, except for Mitsch, don't do any crossing with the species. So you're not getting too many cyclamineus, jonquils, or triandrus.

T: Are you saying use the species for the male or the female?

P: Always for the male, never for the female. The only time you want to use them for the female is when you self it to get more seed to get more species.

T: I had tried species, and was doing it exactly the opposite of what you just said, and had no results.

P: Well, if you get seed, most of them are going to be self-seed. You get very little doing it that way. The other thing is, to use the best quality flower they've got, not necessarily the most expensive one, even though they only have two or three blooms of it, rather than use Mount Hood or something. If you have two blooms of Queenscourt, use those two blooms and forget the row of Mount Hood. By the same token, if you've got Rockall, use your two blooms of Rockall rather than twelve blooms of Kilworth, because Rockall is already an improvement on Kilworth. So don't bother to go back to the old crosses that people did thirty or forty years ago. That's one advantage that daffodil growers have, that they can use the new flowers and they're just as well off as the big hybridizer, because that's all he's got to work with, too. They might not have as many of the new ones as he does, but to go back would be a waste of time.

T: When it comes to using cultivars like Rockall, the perfection of the individual bloom itself that you're going to use for the cross doesn't matter. It's a matter of good cultivars, right?

P: When you're dealing with Rockall, or any other of the named cultivars, that doesn't make any difference. However, when you're dealing with the species, you've got to remember that each clone or each plant has somewhat different qualities than the one right next to it. If you have a whole row of

jonquilla and inspect it, you'll find that on some of them the petals overlap, on some the petals are rounder than others, and some will have five blooms to the stem, where others will have two blooms. When you're dealing with the species, use your best blooms, the ones that have the qualities you want, such as five flowers to the stem or rounded petals. But when you're dealing with the regular cultivars, an ugly bloom is just as good as a pretty bloom. They've got the same genes.

T: Bill, I sure do appreciate it. You've done fantastic work in hybridizing, obviously. I've been tremendously impressed.

P: Well, I've had a lot of fun doing it. I don't know how "fantastic" it is, but it's a lot of fun entering a show with nothing but your own flowers, and having them compete with Richardson's and Mitsch's, and come out ahead. To begin with, I think it's fun taking one of theirs and putting it in the show and competing with others and winning. This is just another step forward. So, now that I've won with all my own seedlings, the next thing I want to do is win a Carey Quinn with all my own *named* varieties. Nothing but my own named and registered varieties in the Quinn, that's my next project, which is several years away.

T: I have especially admired your whites, and this year I admired your yellow-pinks. Is there any other particular direction in hybridizing that you're going after?

P: Well, no, what I've done is just shoot with a shotgun, as it were, and the reason I did that, is just what I said about the Quinn class. My feeling is, if you're going to enter a Quinn class, you've got to have something in every division. So I've actually registered flowers in every division, except, of course, Division 10. I don't fool with species like I used to, because I've got enough of those coming on, enough of them in my arsenal, that I don't need any more. In fact, this year, I didn't make any crosses at all. I don't plan to quit, but this year I was in Oregon during my blooming season here. We were late here and they were early in Oregon, so I had to pick, and I felt I owed it to Murray to go out there and eliminate things so he wouldn't have to keep growing them.

T: But you are going to continue.

P: Yes, I'll do some more next year.

T: Bill, I sure do appreciate it, and I've enjoyed it.

BOARD OF DIRECTORS MEETING, SEPTEMBER 27, 1980

(Abridged from the report of the Secretary)

Forty-three directors were present.

Mr. Knierim, treasurer, reported a sound financial picture. \$10,000 was received shortly after the March meeting as a bequest from the estate of John and Betty Larus. Charles Larus had stated that the bequest was not limited, but he hoped that it would be used for research.

EXECUTIVE DIRECTORS' REPORT: Mr. Ticknor reported that the Society is strong and healthy both in regards to finances and membership. He emphasized again that our basic income remains constant while basic costs are rising sharply due to inflation. Regional Reports were received from all nine regions.

COMMITTEE REPORTS:

AWARDS: This report will come under old business.

BREEDING AND SELECTION: Dr. Bender reported on the results of a meeting of twenty-seven hybridizers in Memphis. The following conclusions were reached: 1) The present framework for naming and registering new cultivars is adequate and workable. 2) The increase in registrations is indicative of increased interest and activity in hybridizing. 3) There is no way to prevent registration of "phantom names." 4) There

should be no double standard for judging daffodil seedlings in a show. The standard scale of points should be used and "distinction" should be expunged from judgment for the Rose Ribbon. 5) All hybridizers make mistakes. Another meeting will be held at 7:30 a.m. Friday during the California convention.

CLASSIFICATION: Mrs. Anthony consulted with her committee about proposed changes in color codes.

DATA BANK: Dr. Throckmorton reported that the Data Bank had been updated on September 20. All doubles have been turned into two-letter codes. The chromosome count has been dropped from the bank but is still in the computer. V's have been added. The bank states: "V is a symbol that denotes variation. It is not a part of the color code . . ." *Daffodils to Show and Grow and Abridged Classified List* will be put out with the cooperation of the British.

EDITOR OF JOURNAL: In the future *Journals* will be sent without envelopes. Damaged *Journals* will be replaced. The Editor requested copies of all RVP Newsletters and talks given at Regional Meetings. Mrs. Gripshover stated that printing costs continue to rise. She moved that overseas dues be raised to the same as domestic dues. Dr. Throckmorton seconded. The motion was defeated.

HEALTH AND CULTURE: Mr. Wheeler reported on the correct procedure to follow in dealing with suspected health problems: the sending of questionable materials to state and USDA specialists.

JUDGES: Mrs. Barnes reported that the Society currently lists 287 Accredited Judges, 25 newly Accredited Judges, 75 Student Judges, and 3 Accredited Judges Retired.

LIBRARY: Mrs. Bloomer sent a report listing quotes for binding the *ADS Journals*. Expressing confidence in the Librarian, the Board voted to leave the decision to the Library Chairman to select the bindery and arrange to have the work done.

MEMBERSHIP: Mrs. Armstrong reported a net gain of 61 members since the last Board meeting to a total of 1584. She emphasized that the Society has problems in retaining old members, not in attracting new ones.

MINIATURES: Mrs. Macneale reported on changes to the Approved List of Miniatures.

PHOTOGRAPHY: Mrs. Stanford thanked Mr. Knierim for 165 beautiful slides made at shows in 1980. These will update "Novelties" and "Show Winners" sets. She has also received slides from Joy Mackinney, George Tarry, and Louise Hardison.

PUBLICATIONS: Mrs. Cartwright reported receiving advertising inquiries from companies not directly involved with daffodil culture. The companies were thanked for their interest and turned down. Future projects include *Daffodils to Show and Grow and Abridged Classified List* and the revised *Handbook for Exhibiting and Judging Daffodils*.

PUBLIC RELATIONS: Mrs. Perry enumerated events that have taken place since the Board meeting in Memphis. Burpees and deJager have complied with her request for correct classification and nomenclature.

REGISTRATION: Mrs. Anderson sent in a report stating that six breeders had registered 29 new cultivars.

ROUND ROBINS: Mr. Ezell spoke of five robins which now pass through his hands and indicated that two more are probably in existence. The most successful robins seem to be those in which participants are bound together by a common interest. He will try to form a robin of veterans and novices and perhaps several others. Problems seem to be length of time to circulate, and loss.

SCHOOLS: Mrs. Yerger reported on the various schools which were offered in different areas last spring. Of the 48 students who took Course I in spring of 1978, 25 passed Course III in 1980.

SYMPOSIUM: Mrs. Moore thanked all who submitted reports and encouraged others to submit data next spring.

TEST GARDENS: Mrs. Pardue detailed the expanding test garden program. (See December 1980 *Daffodil Journal*.)

OLD BUSINESS:

NOMINATING COMMITTEE: Mrs. Bozievich announced that Mrs. Dean has asked to be replaced as chairman of the Nominating Committee. She is willing to serve as a committee member. Mrs. Cox, already a member of the committee, has agreed to serve as chairman.

SPECIAL RULES FOR NATIONAL SHOWS: Mrs. Lee's "Proposed Rules for National Shows" were adopted by the Board. The rules are as follows: 1) The chairman of each National ADS Show should have a copy of the "Procedure for Obtaining Awards from American Daffodil Society, Inc." and the supplement pertaining to National Shows. 2) When National Shows are held in a place where there are few members who might show and/or when the show is particularly early for many members to take flowers, a variance from the ADS Awards Chairman might be obtained for eliminating certain classes normally required. (This has been done when the Show was held in Oregon.) 3) Student Judges may judge in National Shows if they are used *in addition to* three Accredited Judges. *However, they shall not judge on a panel judging the awards and trophies only available for National Shows, the Quinn, Watrous, Larus, and Mitsch awards and trophies. 4) Foreign growers may judge in a National Show with two ADS Accredited Judges, i.e. one foreign grower and two ADS Accredited Judges per panel. They shall NOT judge the Quinn or Watrous. 5) Judges MUST be invited to judge a National Show well in advance of the show date, not the day before, or the morning of, the show date. It is recognized that sometimes one or possibly two judges may not show up and have to be replaced quickly and as unobtrusively as possible. *The ADS Procedure states that there must be a panel of three Accredited Judges for all classes with ADS Medals or Trophies.

NEW BUSINESS:

BUDGET: Mrs. Hardison projected an income of \$18,100 for 1981 and expenses of \$19,466.

REFRESHER COURSE FOR ACCREDITED JUDGES: All Accredited Judges are required to renew their certificates every three years. An extension of one year may be granted in an emergency if such an extension is requested before the three year period lapses. Extension requests must be made to the Chairman of Judges. A judge may audit any one of the three judging schools or attend any special refresher given by an approved instructor or a specialist in his/her field. The refresher may be given at a national, regional, or state meeting or even at a meeting sponsored by a club. When a judging certificate is allowed to lapse, it may be renewed by taking one of the three schools and point scoring.

AWARDS FOR DAFFODILS IN THE GARDEN: Mrs. Bozievich stated that a committee chaired by Joy and Bill Mackinney and including Ruth Pardue, Jack Romine, and Cathy Riley has been selected to study the possibility of creating an award to be given annually to a daffodil which has proven its worth as an outstanding plant and flower. The award would be known as the John and Gertrude Wister Award. Details will be brought to the Board meeting in California.

HANDBOOK REVISION: A lengthy discussion on proposed changes ensued. Since time did not permit a complete discussion, Mrs. Bozievich asked that each Board member send comments to her so that these might be gathered together by Mr. Anthony for further discussion in California in the spring.

LARUS BEQUEST: Mrs. Bozievich said that the Executive Committee and three other people appointed by the president would determine the use of the income. Mr. Wheeler moved that the bequest be known as the Betty and John Larus Educational Research Fund. Motion carried. Dr. Throckmorton suggested that other contributions could be made to the fund. Mr. Knierim suggested that the surpluses from the Boston and Memphis conventions be placed in this educational and research fund. Motion carried.

CHANGES IN THE SCHOOLS' PROCEDURES: Mrs. Yerger requested several changes in procedures.

FALL BOARD MEETING: Mrs. Shryoc invited the Board to Dallas, Texas, on October 23-24, 1981, to be hosted by the Texas Daffodil Society. The Board accepted with thanks.

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Going round and round all alone? Get yourself organized. Join a Round Robin.

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1981 SHOW DATES

MRS. PHIL LEE, *Awards Chairman*

- March 14-15 - Fortuna, California—Fortuna Garden Club at the Fortuna Monday Club, 610 Main St.; information: Mrs. Mary Lou VanDeventer, 366 Garland Ave., Fortuna, CA 95540.
- March 14-15 - La Canada, California—Pacific Regional and Silver Anniversary Show by the Southern California Daffodil Society at Descanso Gardens, 1419 Descanso Dr.; information; Jay Pengra, 959 St. Katherine Dr., Flintridge, CA 91011.
- March 20 - Dallas Texas—Southwest Regional show by the Texas Daffodil Society at the Garden Center, Fair Park; information: Mrs. Royal A. Ferris, Jr., 4125 Turtle Creek, Dallas, Texas 75219
- March 21-22 - Ross, California—by the Northern California Daffodil Society at the Marin Art and Garden Center, Sir Francis Drake Blvd.; information: Robert Spotts, 3934 LaColina Rd., El Sobrante, CA 94803.
- March 21-22 - Hernando, Mississippi—by the Garden Study Club of Hernando at the National Guard Armory, McCracken Rd.; information: Mrs. Morris Lee Scott, 3067 Laughter Rd., S., Hernando, MS 39632.
- March 26 - Newport Beach, California—National Show at Del Webb's Newporter Inn, Newport Beach, CA: information: Jay Pengra, 954 St. Katherine Dr., Flintridge, CA 91011.
- March 26-27 - Atlanta, Georgia—by the Georgia Daffodil Society and Rich's Garden Center of Atlanta at Plaza Auditorium, Rich's Downtown Store, Forsyth, MLK Drive, and Spring Streets; information: Mrs. Jeanne O. Lynch, Rich's Garden Center, P.O. Box 4539, Atlanta, GA 30302.
- March 28-29 - Memphis, Tennessee—by the Mid-South Daffodil Society at the Goldsmith Garden Center, Audubon Park; information: Mrs. John H. Payne, 1008 Brownlee Rd., Memphis, TN 38116.
- April 1-2 - Suffolk, Virginia—by the Garden Club of Virginia at the Nansemond River Academy; information: Mrs. Thomas J. O'Connor, 1020 Maryland Ave., Suffolk, VA 23434. (not an ADS show.)
- *April 4 - Fayetteville, Arkansas—by the Arkansas Daffodil Society at the Methodist Assembly Grounds on Mount Sequoia, Arkansas; information: Mrs. Victor M. Watts, 1619 West Maple, Fayetteville, AR 72701.
- April 4 - Paducah, Kentucky—by the Kentucky Daffodil Society at the Paducah Open Air Market, 2nd and Washington Streets, Paducah, KY; information: Mrs. Richard Roof, 249 Cardinal Lane, Paducah, KY 42001.
- April 4-5 - Nashville, Tennessee—Southern Regional Show by the Middle Tennessee Daffodil Society at Botanic Hall, Cheekwood; information: Mrs. Joe Talbot, III, 6117 Bresslyn Rd., Nashville, TN 37205.
- April 4-5 - Hampton, Virginia—by the Tidewater Virginia Daffodil Society at the Holiday Inn (Coliseum) in Hampton, VA; information: Mr. H. A. Rountree, Jr., 276 Harris Creek Rd., Hampton, VA 23669.
- April 7 - Accomac, Virginia—by the Garden Club of the Eastern Shore at the Drummondtown United Methodist Church; information: Mrs. Charles S. Manning, Metomkin Farm, Accomac, VA 23301.
- April 8-9 - Chapel Hill, North Carolina—State Daffodil Show by the Chapel Hill Daffodil Society in the Totten Center, North Carolina Botanical Garden; information: Mrs. W. C. Wiley, 412 Cameron Ave., Chapel Hill, NC 27514.

- April 10 - Scottsburg, Indiana—by the Indiana Daffodil Growers-South at the Presbyterian Church, Highway 56 & Washington Sts.; information: Mrs. Verne Trueblood, RFD 3, Box 187-A, Scottsburg, IN 47170.
- April 11 - Princess Anne, Maryland—by the Somerset County Garden Club at the Peninsula Bank; information: Mrs. H. Parker Tull, Jr., 11 E. Main St., Crisfield, MD 21817.
- April 11-12 - Gloucester, Virginia—by the Garden Club of Gloucester at the Gloucester Intermediate School, Route 17; information: Mrs. John D. Briggs, Bena, VA 23018.
- April 13-14 - Philadelphia, Pennsylvania—by the Philadelphia Area Daffodil Society at the Horticultural Hall, Fairmont Park; information: Mrs. Kevin W. Keenan, 1543 Old Welsh Rd., Huntingdon Valley, PA 19006.
- April 17-18 - Dayton, Ohio—by the Southwest Ohio Daffodil Society at the Wegerzyn Garden Center, 1301 Seibenthaler Ave.; information: Mrs. Robert Sulgrove, 5512 Woodbridge Lane, Dayton, Ohio 45429.
- April 18 - Carbondale, Illinois—Illinois State Show by the Southern Illinois Daffodil Society at Southern Illinois University; information: Mrs. Glen Sands, RR2, Box 341, Lake Rd., Murphysboro, IL 62966.
- April 18-19 - Washington, D.C.—Middle Atlantic Regional Show by the Washington Daffodil Society at the National Arboretum Administration Building, 24th and R Streets, N.E.; information: Mrs. Robert J. Westbrook, 31 Murray Hill Dr., Oxon Hill, MD 20022.
- April 21-22 - Chillicothe, Ohio—Midwest Regional Show by the Adena Daffodil Society at the Veterans Administration Hospital, Recreational Hall, Bldg. 9; information: Mrs. Kenneth Dunn, 28 Shawnee Dr., Chillicothe, Ohio 45601.
- April 22-23 - Downtingtown, Pennsylvania—by the Woman's Club of Downtingtown at the Woman's Club Clubhouse, Manor Ave; information: Mrs. James C. Patterson, 130 Woodland Circle, Downtingtown, PA 19335.
- April 22-23 - Baltimore, Maryland—by the Maryland Daffodil Society at the Brown Memorial Church, North Charles St.; information: Mrs. Frederick Viele, 237 Cooley Mill Rd., Havre de Grace, MD 21078.
- April 23 - Indianapolis, Indiana—State Show by the Indiana Daffodil Society at the Meridian Street United Methodist Church, 5500 North Meridian St.; information: Mrs. Robert H. Brunner, 610 College Lane, Indianapolis, IN 46240.
- April 24 - Wilmington, Delaware—by the Delaware Daffodil Society at the St. Albans Episcopal Church, 913 Wilson Rd.; information: W. R. MacKinney, 553 Woodhaven Rd., West Chester, PA 19380.
- April 25-26 - Columbus, Ohio—State Show by the Central Ohio Daffodil Society at Upper Arlington Municipal Services Bldg., 3200 Tremont Rd.; information: Mrs. Hubert Bourne, 1052 Shadyhill, Columbus, Ohio 43221.
- *April 28-29 - Chambersburg, Pennsylvania—Northeast Regional Show by the Chambersburg Garden Club at the Chambersburg Recreation Center, South Third St.; information: Mrs. William A. Nelling, 657 Philadelphia Ave., Chambersburg, PA 17201.
- April 30 - Greenwich, Connecticut—by the Greenwich Daffodil Society at the Boys Club of Greenwich, Horseneck Lane; information: Mrs. Clarke Randt, Husted Lane, Greenwich, CT 06830.

May 9-10 - Chaska, Minnesota—by the Daffodil Society of Minnesota at the Minnesota Landscape Arboretum, 3675 Arboretum Dr.; information: Michael L. Heger, Route 1, Box 64, Waconia, MN 55387.

*Please note a change of date from that listed in the December *Journal*.—Ed.



THE DAFFODIL MART

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DAFFODIL DISEASES AND PESTS: VII - NONINFECTIOUS DISEASES

THEODORE E. SNAZELLE, PH.D.
Mississippi College, Clinton, MS 39058

It is of the first importance to understand that disease is a condition of abnormal physiology, and that the boundary lines between health and ill health are vague and difficult to define.

Marshall Ward (1901)

Recall that disease is defined as any departure from a state of health and that noninfectious disease is that which is not caused by a microbe(1). It is now important to note that to one degree or another a departure from a state of health also involves a concomitant physiological change, e.g. the browning of a freshly cut apple is due to the oxidation of naturally occurring phenolic compounds to quinones by enzymes which are called polyphenol oxidases. Thus, noninfectious as well as infectious disease is not only a departure from a state of health but a departure which involves physiological change as well. Noninfectious disease of narcissus and other plants is caused by nonbiological agents, e.g. hot water treatment (HWT) damage, freeze damage, herbicide damage, etc.

HWT DAMAGE

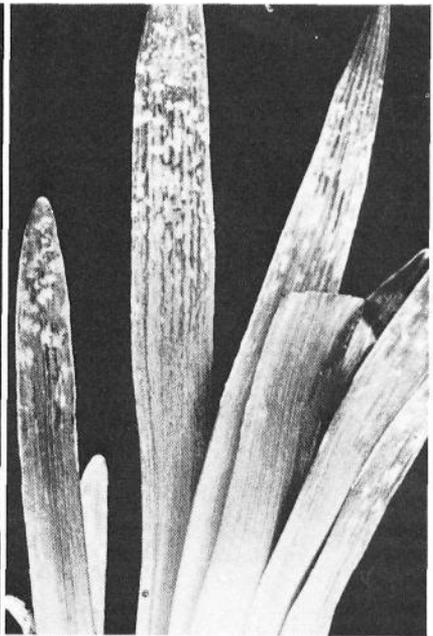
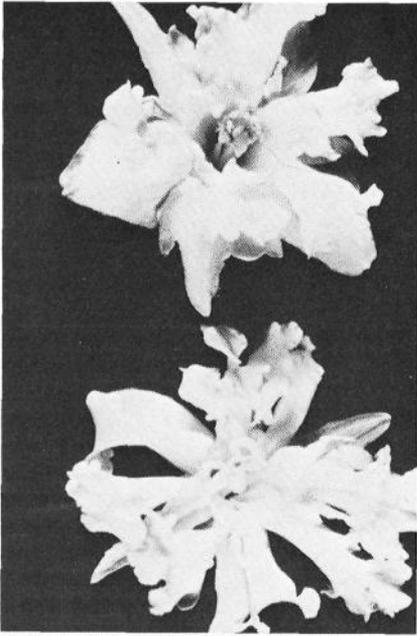
In an attempt to control the bulb and stem nematode, *Ditylenchus dipsaci*, by HWT, damage to narcissus may occur which involves the flowers, leaves, bulbs, and roots (2,3,4). Basically, HWT damage occurs as a consequence of being performed at too high a temperature or at the wrong time, i.e. before the Pc stage of internal development has been reached or a long time after it has been reached (2,4). The Pc stage of internal development of the flower in the bulb is said to have occurred when the final floral part, the trumpet or paracorolla, is clearly visible as a peripheral frill outside the base of the anthers (2,4). This stage of development can only be discerned by dissecting the flower bulb to expose the developing flower. Obviously, this is practical only when large quantities of bulbs of a single cultivar are grown. Thus, the hobbyist's concern is not the timing of HWT but rather is the recognition of HWT damage so that otherwise healthy bulbs would not needlessly be rogued. As you will recall (5), there are two basic regimens for HWT: 1) first year flowers not required—HWT for three hours at 44.4°C (112.0°F), and 2) first year flowers required—warm store the bulbs for seven days at 30°C (86°F), pre-soak for three hours or overnight, and HWT for three hours at 46.7°C (116.0°F).

FLOWER DAMAGE

If HWT is given very early, i.e. before the Pc stage of internal development, the flower bud may be killed in the bulb; however, if HWT is applied to the bulbs just before the Pc stage of internal development is reached, the damage usually takes the form of a split trumpet and ragged perianth (2). See Figure 1 showing HWT damage to a narcissus flower.

FOLIAGE DAMAGE

When HWT is carried out later than it should be, i.e. after the Pc stage of internal development has been reached, the foliage will show a pale-green, yellowish or grayish mottling or blotching near the leaf tip (2,3). See Figure 2



Top left: Figure 1, Trumpet Break, HWT Damage; right: Figure 2, Foliage, HWT Damage (both British Crown Copyright). Bottom left: Figure 3, Freeze (frost) Damage to Foliage of *N. italicus*; right: Figure 4, Freeze (frost) Damage to Flower Bud (both Snazelle photos).

showing HWT damage to narcissus foliage. It is important for the hobbyist not to react prematurely and rogue these bulbs because he/she thinks that they are virus-infected. If the symptoms on the leaves are due to HWT, they will not be seen again on the foliage of second-year-down bulbs; however, symptoms due to virus infection would be present on both first and second-year-down bulbs. Occasionally, foliage of a bulb may show symptoms of both HWT and virus infection (3).

BULB DAMAGE

Damage to bulb scales sometimes occurs when the temperature was too high or when the period of treatment was too long. Damage to bulb scales due to HWT shows up as irregular greyish areas deep within the bulb and, often times, extending up from the basal plate. Bruising of bulbs also shows up as irregular greyish areas on the bulb scales; however, damage due to bruising usually is expressed in the outer scales rather than in the scales deep within the bulb (3).

ROOT DAMAGE

If HWT is applied to bulbs very late, i.e. after the root initials have emerged from the basal plate, or at too high a temperature, root damage may occur which may express itself by the bulb making poor growth the next season (3).

SUMMARY

The safest time to minimize HWT damage is to give HWT to the bulbs shortly after they have reached the Pc stage of internal development (2).

FREEZE (FROST) DAMAGE

The available literature to the author on freeze (frost) damage to narcissus was quite limited. Freeze (frost) damage in narcissus is expressed in three ways: 1) damage to foliage, 2) damage to flower, and 3) damage to bulb. Freeze (frost) damage to foliage usually takes the form of death (necrosis) of the leaf tips (Figure 3). Such damage is particularly common in cultivars and species which put forth foliage early in the year. Usually, freeze (frost) damage causes no permanent damage other than creating unsightly foliage. In the case of freeze (frost) damage to the flower, it is most pronounced while the flower is still enclosed in the spathe or sheath, resulting in a killed flower bud which turns brown, fails to open, and may even separate from the stem (Figure 4). Lastly, in particularly tender cultivars and species, e.g. some tazettas, bulbs will actually freeze in the ground and will not put forth foliage again. Fortunately, most daffodil cultivars and species forms have good cold hardiness and survive the rigors of winter nicely.

FLOWERING—LIGHT/COLD EFFECTS

Perhaps the failure to bloom after the first year in a location which receives inadequate sunlight, e.g. the north side of a house, might not be considered by all to be a disease; however, the disease definition by Ward at the beginning of the article clearly points out that disease is ultimately expressed in terms of abnormal physiology. In the case of narcissus, the available literature to the author is sketchy as to the specific light and cold requirements for flowering. Nonetheless, the physiology of flowering in

narcissus may be the same as in other plants and involve the production of light/cold induced flowering hormone(s). Thus, one might conjecture that the failure to flower in narcissus might be due to the failure of the hormone(s) to be produced. One thing which is clear is that next year's flower is formed in the bulb immediately after flowering (light dependent effect) and, in most instances, the bulb must go through a period of cold before flowering will occur the following spring (cold dependent effect). Therefore, the question concerning the physiology of narcissus flowering is as follows: What hormone(s) govern(s) flowering in narcissus? Thus, the failure to produce hormones involved in flowering would be a case of abnormal physiology in narcissus; hence, disease.

A simple experiment at Wisley Gardens has shown that the foliage must be left on bulbs for at least six weeks after blooming in order to insure bloom again the next year (6). Of course, the reason for this is that light impinging on the leaves during this period induces formation of next year's flower in the bulb.

HERBICIDE DAMAGE

Damage to narcissus foliage by herbicide drift often shows up as leaves with pale steaks, rusty mottling at the base of leaves, or leaves which are uniformly bright yellow (3). Herbicide drift occasionally occurs when the hobbyist or his neighbor is spraying a herbicide, e.g. 2,4-D, to kill broadleaf weeds, e.g. the dandelion, *Taraxacum officinale*. A specific example of herbicide damage to narcissus has been shown to occur when the pre-emergence herbicide (kills weeds before they emerge from the soil) clorpropham was used on a narcissus planting. Chlorpropham causes chevron-like markings on narcissus leaves (Figure 5). In an effort to control thistle in the Columbus, Ohio, Whetstone Park narcissus planting, Amitrol was used only on the thistle in August 1975. The result of this was the production of some narcissus foliage and flowers the following spring (1976) which were devoid of chlorophyll. Subsequently, some improvement was noticed in the spring of 1977; however, the bulbs of cultivars from areas treated with Amitrol were much smaller than those of the same cultivars from untreated areas. In subsequent years, glyphosate (Roundup) was used for weed control after the foliage had completely died down (7). The reader should be advised that a herbicide like Roundup used on actively growing narcissus plants will not only kill the foliage but will also kill the bulbs as well. Thus, precaution must be taken with use of any herbicide or devastating results may occur. One desirable aspect of the use of Roundup for weed control is that it is extremely short-lived, i.e. it completely disappears from the soil and plant residues after a few days (8).

MINERAL DEFICIENCIES

The literature available to the author on mineral nutrition in narcissus was virtually nonexistent. Thus, the effects of phosphorus and potassium deficiencies cannot be stated by the author with certainty. Nonetheless, to insure adequate amounts of these elements in the soil, a fertilizer like 0-24-24 can be used at the rate of 1-1½ lb/100 square feet for new beds. For

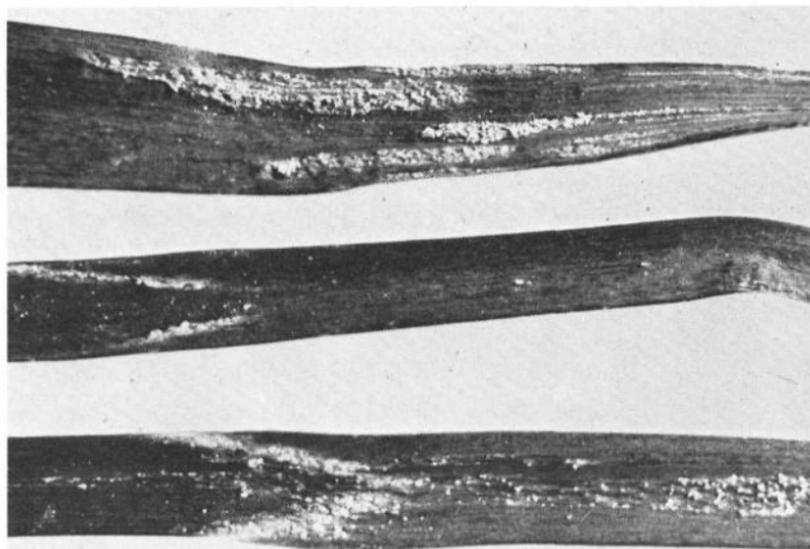


Figure 5, Herbicide (Chlorpropham) Damage to Foliage (British Crown Copyright).

established plantings, a top dressing of $\frac{1}{2}$ lb 0-24-24/100 square feet can be applied in the fall, in the spring at emergence of the leaves, and again after flowering. At Rosewarne Experimental Horticulture Station, Camborne, Cornwall, England, where fertilizer applications have been steadily reduced in recent years because of a high reserve of phosphorus and potassium in the soil, pre-planting fertilizer application has been at the rate of 75 kg P_2O_5 (phosphorus)/hectare and 200 kg K_2O (potassium)/hectare. No additional top dressing was applied during the remainder of the two year cycle (9). In units more familiar to the hobbyist, the Rosewarne fertilizer applications at planting are as follows: $2\frac{1}{2}$ oz phosphorus (P_2O_5)/100 square feet and $6\frac{1}{2}$ oz potassium (K_2O)/100 square feet. The point of all of this is that the hobbyist does not have to religiously apply the same amount of fertilizer to his/her beds every year as it may well be that a good phosphorus and potassium reserve has been established. This can be confirmed by taking a soil sample to your local County Extension Agent for analysis. As is commonly practiced little to no nitrogen is applied to the beds as this may contribute to enhanced basal rot. In summary, it seems rather unlikely that the hobbyist will ever be confronted with the problem of phosphorus and potassium deficiency if minimal application of low nitrogen fertilizer is applied periodically to the planting.

MISCELLANEOUS DISORDERS

Bulbs lying in waterlogged soils produce stunted chlorotic foliage and invariably rot if the condition is prolonged. Obviously, prevention of waterlogging is dependent upon planting in beds which are naturally well-drained or in raised beds. Automobile exhaust emissions which are directed

on a clump of daffodils will severely damage the foliage. Although it would probably occur only in a large commercial daffodil planting, lightning striking the soil would leave a circular area of scorched plants with the effect being greatest at the point of impact and least at the periphery. Repeated urination by dogs on daffodil foliage may cause discolored foliage. Calcium chloride or sodium chloride used to melt ice on the streets may be splashed up onto daffodil beds in sufficient concentrations to severely damage or kill bulbs in the soil. High salt concentrations in the soil can be counteracted to a degree by digging gypsum into the soil. In summary, the list of inanimate objects which will cause a departure from a state of health in narcissus is endless.

AUTHOR'S COMMENTS

This article on noninfectious diseases of narcissus is the last of seven articles on diseases and pests of narcissus. For any errors which may have appeared in the articles, the author accepts full responsibility. The reader should be advised that this series of articles on daffodil diseases and pests doesn't represent the last word on the subject but is only an introduction to it.

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ROBIN ROUND-UP

RICHARD EZELL, *Chambersburg, Pennsylvania*

I certainly hope Lucy Christian doesn't have to "see spring from Interstate 64" as she did last year, driving back and forth from her home in Urbanna, Virginia, to be with her husband, Frank, hospitalized in Richmond. But the experience, however trying for her, provided ever-observant Lucy with material for some memorable passages in her letter for the Regional Robin #2.

In round formal beds and against brick walls, in old orchards and along the roadside, she watched the common, wonderful old daffodils of the countryside come and go. Of three daffodil drifts at one very small house she noted, "One started in the yard but spilled down to a ravine. The other two drifts wound back into the woods. I'm sure there was not a flower which would have won a ribbon, not even an honorable mention, but they certainly could please the passer-by." She saw blooms scattered along a lengthy stretch of highway "planted" inadvertently by the roadbuilding earthmovers; and where once there had been a home and a garden, nothing remained but an old fence—and in front of it, a row of "old early Virginia (Trumpet Major)" still blooming away. Before her trips to Richmond ended, the daffodil season finished with "*biflorus* (Twin Sisters) blooming in an old orchard which had been plowed over many times." Reflecting on her experience of observing the daffodil season mostly from her car window, Lucy wrote, "Most of the flowers I saw were a far cry from those lovely, lovely new ones which [we see at shows], but these old ones are *survivors*."

The five old friends of this "Southeastern" Robin have recently taken on three new members, in the process extending its geographical boundaries out to Texas and up to Pennsylvania. It is quite obviously a close-knit, warm and friendly bunch. Sue Robinson remarks that "all daffodil lovers have much in common," but I think the members of this Robin are something special; as Loyce McKenzie put it, meeting her fellow Robin members for breakfast at the Memphis convention was "more like a family reunion."

.....

Jean Manfredi, as she wrote her contribution to the General Robin #2 last September, was enjoying a number of freshly opened daffodil blooms. A most unusual September up in Massachusetts, you must be thinking. Jean had made it unusual by ordering bulbs from Australia, receiving them in the spring, potting them in May as they began to show green shoots, and popping them into her refrigerator for a cool rooting period, removing them in late August, first to subdued light outdoors and then into the sun. Her painstaking care was rewarded by blooms in September and October. But what about this year . . . and next? Will the horrible shock of November in Massachusetts, following hard upon the heels of their early fall exertions, cause those Aussie bulbs to cancel all thoughts of ever surfacing again into this crazy, mixed-up world to which Lindsay Dettman dispatched them? At any rate, her fellow Robin members may expect Jean Manfredi to keep her watchful eyes upon them, and report their progress—or lack of it.

This is just the kind of information many participants value most in their Robins: after all, the practice of importing bulbs from Australia and New Zealand is still very much in the experimental stage, and hardly any two who have tried it seem agreed on best methods; certainly results have varied

tremendously for different people in different years. But there are so many beautiful daffodils down under, and we cannot afford to neglect them . . . so those among us who are willing to take the time and trouble to experiment with ways to get them settled over here as happily as possible, are doing all of us a considerable favor. The Round Robins are of course an excellent medium for the exchange of results, suggestions for improvement, and help with specific problems.

* * * * *

A new Robin is now on the wing: one that aims purely and simply to cover *all* about tazettas: species, hybrids, and poetaz types. If you grow these, or would like to, let me know right away; there are still openings for a couple more "charter" members. Also in the works: a cyclamineus Robin and a new miniature Robin. And who, please, would be interested in joining a new hybridizers' Robin? My address is 1341 Lincoln Way East, Chambersburg, PA 17201.

* * * * *

ROBIN FEATHERS

More than one recent Robin writer has commented unhappily upon what seemed to the writer to be a tendency for judges to place far too high a value upon sheer size of bloom in awarding show ribbons. One went so far as to place the blame for this "tendency" squarely upon the shoulders of *male judges*. What implications are here? Does size attract size? Shall we allow no one over five feet two to judge miniatures? Do short men prefer short stemmed flowers? Cannot a man like Golden Aura almost as well as Carlton? If we get still more male judges will Unsurpassable begin beating Arctic Gold? Will we offer a new award for Biggest Miniature in Show? Ladies, I beg of you, save us from ourselves.

BEGINNERS CORNER

Hopefully over the past year, some of you have been encouraged to plant some exhibition daffodils and are now ready to take the plunge and enter your first show. To help prepare you for that, we are excerpting from materials prepared for a "Workshop Preparing for Daffodil Show" which was sponsored by the Central Ohio Daffodil Society in 1980.

CUTTING AND CONDITIONING

1. Have handy a bucket with water, clippers, pen that will write on blooms, rubber bands, small cards with holes.
2. Cut on a slant with sharp knife; never pull the bloom. Never cut down into the white part of the stem. Identify that bloom by placing the name and division and color coding on the stem IMMEDIATELY. Write on the back of the stem.
3. All blooms will be larger if left on the plant until fully open. However, red cups should be picked as soon as opened or protected to prevent sunburn. If you're unhappy with a short stem, you can lengthen the stem by cutting

- the top and bottom from a cardboard box; stake sides to the ground around the clump and stems will lengthen by seeking the light. To retard growth of the stem, use cardboard box method and shade the top.
4. Cut in mid-afternoon when the sugar content is highest; sugar content helps to preserve blooms.
 5. Place blooms in tepid water (about 80°) no more than two to three inches deep and leave until cool. Then place in cold water for twelve to twenty-four hours. NOTE: Don't overcrowd flowers; keep them out of drafts and bright light.
 6. This is the time to groom your flowers. Remember condition counts 20%; you want a fresh, CLEAN flower. Rainspots, dirt, spilled pollen, etc. can be removed.
 - (a) Dirt and rainspots you remove with wet cotton, Q-tips, soft brush or cotton dipped in milk or detergent and rinse off. Also clean the back side.
 - (b) Remove pollen spilled in the cup with small, dry brush or blow into cup.
 - (c) Ridges may be smoothed out by wrapping your finger with cotton ball, place finger behind perianth segment and brush gently with a camel's hair brush.
 - (d) NEVER, NEVER remove the sheath even though mutilated.
 - (e) To get axis balance, gently twist head of the flower.
 - (f) Direction of light can cause twisting of neck and ruin the pose. Keep out of drafts and bright light. Pose of flower may be improved by placing flower below light to raise pose; by placing above light to lower pose. Flower should look you straight in the eye (with the exception of pendent flowers).
 - (g) Recut stem if split or curled at the base.
 7. Daffodils can be kept in the refrigerator up to ten days. After cleaning, make sure they're fully dry before placing in two inches of water in refrigerator (non-self-defrosting refrigerator is best). Keep temperature around 40-45°. Humidity needs to be kept high to keep substance from drying out. This can be accomplished with (a) wet towel, (b) fill drainage hole in bottom of refrigerator with floral clay and place water in bottom, and (c) spray with atomizer from time to time during refrigeration.

THOSE DAFFODILS WITH MANY FAULTS, FORGET AND LEAVE AT HOME.

—“TAG” BOURNE

STAGING

Good Staging can improve some of the qualities of a specimen such as pose and length of stem. (Make sure stem is in water).

Make out entry tags days before the show with name and address.

If possible secure containers ahead of time and stage blooms at home; this saves much time day of show.

Generally blooms should look you straight in the face unless of a type that is naturally drooping in nature.

THREE STEMS

UNIFORMITY of all elements (size, color, etc.) is important; five points may be deducted for lack of uniformity. Place in an equilateral triangle with largest bloom at top. Blooms should not touch.

COLLECTIONS

Place largest blooms at top rear; shortest on bottom row.

Alternate yellow and white perianths and red or pink cups with white or yellow ones if possible for balance. Early in the season there are more yellow perianths, late in season more white ones. DO NOT SACRIFICE QUALITY to obtain contrast of colors.

More divisions represented is a plus. In each row, specimens should be the same height, especially top row. Overall view should be pleasing.

Place entry tag and individual labels with name of daffodil, division, and color code. In American-Bred class list also the name of the hybridizer. Make sure *both top and bottom* portions of entry tag are properly filled out.

TAKE TO THE SHOW A KIT INCLUDING:

(1) Extra entry tags with name and address on (2) Camel hair brush (3) Schedule (4) RHS Classification (5) Q-tips (6) Card pins and cards (7) Knife and/or clippers

TAKE EXTRA BLOOMS IN CASE OF DAMAGE OR LOSS OF SUBSTANCE.

—NAOMI LIGGETT

JUDGING

The first thing to remember is that the schedule rules; the judge studies the schedule and is governed by its rules. For instance, if the schedule rules that all entries must be labeled and color coded any entry which does not follow this rule will be automatically disqualified. The judge never disqualifies an entry, just does not judge it. This is what the judge looks for:

CONDITION — Is the specimen at its prime, fresh, clean, strong . . . not overly limp, thin and transparent . . . are there cuts, tears, bruises, rain spots or evidence of sunburn.

FORM — Is it typical for the Division? For instance, ideally for Divisions 1 through 3 and 9 the perianth segments are flat and overlapping forming a visual circle. Is the cup nicely rounded with evenly serrated or ruffled edges? Does it have axis balance? Faults are mittens, mis-shapen cup, flopping and twisted petals.

SUBSTANCE & TEXTURE — Is the tissue velvety smooth and thick, satiny smooth, waxy; does it glisten? Faults are crepey and ridged petals; thin edges and tips to petals.

COLOR — The color should be typical to cultivar; clear, clean without streaking and fading. Green is a plus in the eye of a cup, but green on the backs of a cultivar is a fault. The toned and reverse bicolors, pinks, etc. present a different problem. Knowledge and experience in judging them at their prime stage of development is of importance, otherwise it may be immature or past its prime. The word "variable" will be introduced in the latest data bank which should be available in October.

POSE — Is it at right angles to the stem? Does the flower look right at you. Exceptions: Divisions 4 through 8.

STEM — Should be straight, strong enough to support the flower, and in proportion to the size of the bloom.

SIZE — Knowledge of normal size of flower is important. Extra large blooms indicate good culture and are a plus unless refinement of the flower is lost.

—GRACE BAIRD

BITS AND PIECES

One of the highlights of the holiday season was Beryl 6Y-O coming into bloom on Christmas Day. Three of the bulbs bloomed with two scapes each. This was one of the cultivars I planted at our last CODS meeting [October 21]. I would like to say I read all the instructions and counted the days, etc., but didn't. The pots were placed in the garage the night of the meeting and not watered until the third of November. Sometime later the foliage and then the buds appeared. At this time they were placed in a northern window of the garage. On December 20th the pot of Beryl was brought indoors to a bedroom with a southern exposure and the register partially closed. Five days later—voila! The other cultivar, Golden Dawn 8Y-O, is still in the garage with foliage only visible.

—NAOMI LIGGETT, *Cods Corner, January, 1981*

AN ARKANSAS TEST GARDEN

In 1978 Arkansas members of ADS were so impressed by the daffodil planting in the Columbus park, they wished to have some sort of display in their state which would help in giving an answer to those who asked, "What kinds of Daffodil can I grow in Arkansas?" It appeared such a project would be helpful not only to residents of this state, but to those in adjoining states with comparable climatic conditions (Kansas, Oklahoma, parts of Louisiana, Texas, and Tennessee, as well as Missouri). We wrote to Mr. Thompson to say we felt our climate was so different from that in South Carolina and Minnesota that this was a project the Arkansas Daffodil Society would like to undertake. The Society members would provide the bulbs, the University of Arkansas would provide space at the Experimental Station at Fayetteville, planting and maintenance, and Dr. Gerald Klingaman would oversee records (as he does for the All American planting).

In the fall of 1979, the Society's first collection of bulbs was assembled at the fall meeting; nearly 200 cultivars were planted in groups of three each. Because they are planted in rows, the blooms do not make the beautiful display they might. Experience showed there is need for a close watch to be kept for dates of bloom. In our own garden on top of a hill, four miles away and about 100 feet higher, a cultivar might hardly have leaves showing while the same one was in bloom at the Test Garden (and so be caught by a late freeze).

A report was compiled for 1980 and sent to Mr. Thompson. A few cultivars needed to be replaced.

Through the kindness of Arkansas Daffodil Society members, Murray Evans, and the Central Ohio Daffodil Society, another 100 cultivars were planted this fall (1980). It is hoped more will be added each year.

The Arkansas Society also voted this fall to provide bulbs for a planting on the State Capitol Grounds (as had other Societies, Rose, Daylily, etc). These are uniform beds, cared for by the Capitol Landscape Personnel). Mrs. Fred Wm. Harris is chairman of the committee which has received donations of bulbs from state members and commercial growers, all of whom have been most generous. These bulbs are now planted.

For the fourth year additions have been made to the roadside plantings along U. S. 71, north of Fayetteville. About four bushels of daffodil bulbs went in this year, with the help of members of the U. of A. Horticulture Club. Bulbs were donated by a local grower.

—ISABEL BUNTEN WATTS, *Fayetteville, Arkansas*

IN THE BEGINNING

WILLARD A. KING, *Hot Springs, Arkansas*

The first organized activity of the daffodil growers of America centered in the Garden Club of Virginia, the Washington Daffodil Society, and the Maryland Daffodil Society. As a result of the activity, shows, and publicity put out by these three clubs, the editor of *Popular Gardening* magazine, Paul Frese, felt that it was time to organize a national daffodil society, so he ran an article in the October, 1953, issue entitled "Who Will Join a Daffodil Society?" The response was so great he wrote a letter to some of the most active members of these three clubs urging them to proceed with the organization of a national daffodil society. One of the respondents was Judge Carey E. Quinn who promised to get an enthusiastic group of people together to, at least make an effort, get something started. Inasmuch as Carey and I were traveling all over the Mid-Atlantic states at this time judging daffodil shows, giving talks to various garden clubs, and because we were very close friends, he sold me on the idea that we should have the first meeting in my home because it was centrally located to the three most active daffodil clubs. He sent out invitations to a number of members of the three clubs whom he thought would be willing to come to such a meeting. Those attending this first meeting were Mrs. Lawrence R. Wharton, president of the Maryland Daffodil Society; Mrs. J. Robert Walker, chairman of the Garden Club of Virginia's test garden; Mrs. William A. Bridges of the Maryland Daffodil Society; Harry I. Tuggle of the Garden Club of Virginia, and of course, yours truly. He had to invite me as the meeting was being held in my living room. I might add that at this time, Carey was president of the Washington Daffodil Society.

After considerable discussion it was decided to call a meeting of those members of the three clubs who were thought to be most interested in organizing a national society. Mrs. George D. Watrous, Jr. of Washington, D. C. was responsible for getting such a group together and invited them to participate in an organizational meeting which would be part of the agenda of the Third Annual Daffodil Institute of the Washington Daffodil Society. This was held on April 9, 1954, at Woodward and Lothrop's department store in Chevy Chase, Maryland.

This meeting was called to order by Frederic P. Lee. Paul Frese was elected temporary chairman and Harry I. Tuggle was elected temporary secretary. The following were selected as the first Board of Directors:

Mrs. William A. Bridges	Mrs. Frank Gnilkeep
Mrs. Jesse Cox	Joel Chandler Harris
Paul F. Frese	George W. Heath
Jan deGraaff	John R. Larus
Frederic P. Lee	Harry I. Tuggle
Grant E. Mitsch	Mrs. J. Robert Walker
Mrs. Theodore Pratt	Mrs. Lawrence R. Wharton
Carey E. Quinn	Dr. Freeman Weiss
Fred F. Rockwell	John C. Wister
Dr. George L. Slate	William H. Wood

On January 22, 1955, the Board of Directors adopted a constitution and by-laws which made the American Daffodil Society a recognized national horticultural society. At this same meeting the directors elected the following as the first permanent officers:

President: Carey E. Quinn
First Vice-President: George S. Lee, Jr.
Second Vice-President: Grant E. Mitsch
Secretary: Willis H. Wheeler
Treasurer: Mrs. William A. Bridges
Editor: Freeman W. Weiss
Registrar: Mrs. Walter Colquitt
Librarian: Mrs. John S. Moats
Round Robin Director: Mrs. E. G. Sawyers

The final item at this most important meeting was the decision to hold the first national daffodil show on April 7, 1956, in honor of Guy L. Wilson, the dean of contemporary daffodil breeders.

The next great accomplishment of this fledgling society was the publishing of the first annual *Yearbook* and an accolade for this accomplishment goes to Dr. Freeman Weiss. He worked long and hard to bring this publication into being, and if my memory serves me correctly it came out in March of 1956.

On February 20, 1958, the Society was incorporated and the incorporation papers were signed by Margaret C. Lancaster, Roberta C. Watrous, and Freeman Weiss. Five days later on February 25, 1958, these same three signers of the Certificate of Incorporation set their hand and seal to the unanimously adopted by-laws which are now in effect.

At this same time the directors provided for nine Regional Vice-Presidents and six Directors-at-Large. The nine Regional Vice-Presidents were:

New England: Mrs. William B. Weaver, Jr.
Northeast: Mrs. John B. Capen
Middle Atlantic: Mrs. Lawrence R. Wharton
Midwest: Dr. R. C. Allen
Southern: Mrs. Robert L. Hovis
Southeast: E. Fay Pearce
Southwest: Mrs. J. T. Foster
Central: Mrs. R. O. Powelson
Far West: Mrs. Kenneth B. Anderson

The six Directors-at-Large were:

Harry I. Tuggle	Orville W. Fay
Dr. John C. Wister	John R. Larus
Mrs. Paul Sowell	Mrs. Goethe Link

The Society was now faced with the new problem of becoming a viable national organization. The success of this effort was largely due to the dedicated missionary work of one Carey E. Quinn who made many trips to other daffodil centers, renewing old acquaintances, inspiring enthusiasm among the large growers and commercial nurseries. It is doubtful whether anyone in the country could have accomplished this mission so successfully.

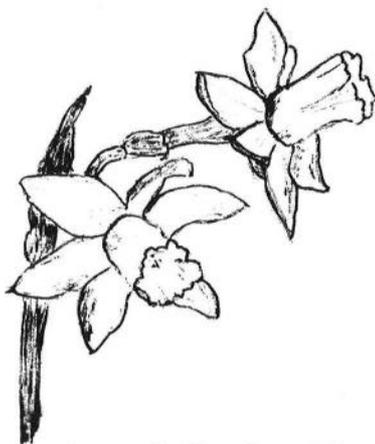
There were others who contributed much to the success of this struggling young organization whose names do not appear above. People like B. Y. Morrison, founder of the American Horticultural Society; Dr. Tom D. Throckmorton; Mrs. Howard B. Bloomer, managing editor of the first *Daffodil Bulletin*; Charles Meehan, who masterminded the first National Daffodil Symposium; Dr. Charles R. Phillips, Managing Editor of the *Yearbook*; Hubert Fischer; Mrs. Ben M. Robertson; Eleanor Hill; Mrs. Floyd Harris; Mrs. Leslie H. Gray; E. C. Powell; Mrs. John Bozievich; Dr. Helen Scorgie; Mrs. Asa Watkins; and William Pannill.

MINIATURES FOR FORCING

PEGGY MACNEALE, *Cincinnati, Ohio*

This will be a two-part article with a continuation in the September *Journal* on the actual forcing process. In the meantime, catalogues are arriving, prices are being compared, and orders are being made out. It is important to remember that early spring orders will result in early fall packages. When it comes to bulbs for forcing, it is never too early. Bags of bulbs can always be put in the refrigerator for some extra pre-cooling if you are lucky enough to receive your order around Labor Day.

Miniature daffodils that are known as successful forcers are not too numerous. As with the standard varieties, those that naturally bloom early out-of-doors will usually do best when forced. Also, many gardeners are very price-conscious when ordering bulbs for forcing, so want varieties that will not strain the budget when purchased by the dozen. A pot of miniatures doesn't make much of a splash unless at least a half-dozen flowers are in bloom at once. This would be about the number that would fit in a 3 or 4-inch African violet pot. A 5 or 6-inch azalea pot would take a good dozen miniature bulbs.



Drawing by Mary Cartwright

From my own experience, as well as that of Charlie Gruber, who has been involved with the PADS display at the Philadelphia Flower Show each March for many years, *Tete-a-tete* is the easiest miniature daffodil to force. Its reliability on every count makes it the favorite miniature of the Dutch growers, who plant it in sweeps at Keukenhof, and ship it by the ton to park departments, wholesalers, and commercial greenhouses all over the world. The *Tete-a-tete* bulb is a bit on the large size as far as miniatures go, so an appropriate-sized pot should be selected. The price of *Tete-a-tete* is reasonable for a good cultivar, and of course you can plant the forced bulbs in the garden later in the spring to

recover and bloom out of doors for years to come.

You cannot say as much for the species miniatures, which may seem to be much less expensive in catalogues, but which either do not force with even growth, or else have a frustrating way of disappearing when planted out. *Asturiensis*, for instance, is able to be forced, as is *triandrus albus*. Both are listed in many catalogues and are not expensive. However, do not count on them to perform any better in later years in your garden than they do when planted outdoors in the first place. *Bulbocodiums* are rather easily forced, too, and may be more satisfactory in pots than in the garden if you find them tender in your climate. I have never tried *jonquilla*, but it blooms so late that I think it would not force well. Another feature of *jonquilla* is its height—it would not look as appealing in a pot, with its over-long leaves and stems, as other miniatures, which are more in proportion to the containers.

A few other popular miniatures that can be successfully forced include several jonquil hybrids: Sundial, Baby Moon, and Bobby Soxer; a couple of trumpets: Little Beauty and Little Gem; and a couple of triandrus lovelies: Hawera and April Tears. These are all available from most sources as they have been in the trade for some years. Surely some of the newer trumpets and cyclamineus miniatures would also be good subjects for forcing if anyone wants to order enough of these rather costly bulbs for this purpose. The main idea in forcing bulbs is to have a fore-taste of spring. Buying a quantity of new and/or tricky varieties is an exercise in risk-taking, so those who want a sure thing had best stick to the easy-to-obtain, comparatively inexpensive miniatures discussed here. At the same time, the subject is open to continuing research, and I welcome comments from anyone who has had success with the forcing of miniatures.

MISNAMERS OF DAFFODILS

WILLIAM O. TICKNOR, *Tyner, North Carolina*

It is always a tragedy to an exhibitor to find an entry card marked with a note "misnamed." A panel of judges can't give a ribbon to a daffodil that they feel certain has been wrongly named. Occasionally an exhibitor will give a daffodil the best name he or she can think of and hope for the best. They feel chagrin when they find they have guessed wrong.

The person who buys a named daffodil with good money and later is told the daffodil is misnamed is bitter and has a right to be. Novelty daffodil retailers in Oregon, Vermont, Virginia, the British Isles, and down under are most careful about their names. If you find one of theirs misnamed, check your planting chart and labels first before you complain. Park Seed Company, Wayside Gardens, and several other great gardening retailers are quite reliable as to names.

Other retailers care less about misnaming. Their catalogs are often slick, colorful collections of retouched photos of various flowers, designed to sell plants to tens of thousands of Americans who don't know, or care too much, of the difference between King Alfred and Carlton. They cater to the great multitude. Our 1600 members who do care are small potatoes indeed. A fancy new name or a famous old name can help sell a plant equally as well as can the retouching of an artist.

The answer? If a correct name is important consider the retailer from whom you intend to buy. Is it in their interest to be certain as to the correct names of their plants? If it is, you can buy with confidence.

Mrs. W. J. Perry of Staunton, Virginia, our Public Relations Committee Chairman, has written to quite a number of plant dealers regarding correct naming of daffodils. Many have promised to do better. Perhaps she can inform us as to their reactions to her letters.



BEGINNINGS

HUGH MCKAY, *Napier, New Zealand*

Why daffodils? How many times have friends asked you that question?

My first steps or experimentations were way back as a fourteen or fifteen year-old when I sent for a couple of daffodil catalogues advertised in a gardening magazine. My father had just died and I was enthusiastically trying to look after a large garden. Daffodils were by no means the only plants in which I was interested; the table beside my bed was covered with catalogues of seeds, shrubs, chrysanthemums, gladiolus, dahlias, and roses, amongst others.

The main thing I remember about those first flowers was my disappointment that Grey Lady (a Guy Wilson 3W-WWR) did not turn out to have a grey center! Soon after we were forced to sell our family home and my love of gardening was forced to hibernate for a number of years while I completed a university degree and my teacher training.

My love of the genus *Narcissus*, which had obviously been germinating for several years, finally broke the surface when I had my first garden after marrying and working in my first job teaching English in a secondary school. By chance I noticed an advertisement for a clearance sale of daffodil bulbs from a specialist grower who had retired or died. I bought an ordinary collection and a pink collection. Most of the bulbs flowered the first season but very few of them came up the next year. I dug around and soon discovered a number of large white grubs in the eaten-out shells of my bulbs. No more daffodils for me! I was too busy discovering a whole range of interesting new vegetables. Besides, vegetables were much more practical in that they fed my young family.

Eventually, however, we moved to a little country town and bought our first home. I added a few ordinary daffodils to the garden and then ordered another dozen named bulbs from the late Ted Cotter of Christchurch. That season they flowered beautifully and I began to see the differences between show flowers and ordinary daffodils.

Friends of ours, Americans who were teaching at the same college, were also impressed with my flowers and began insisting that I enter them in the local show which was being widely advertised at the time. That aroused very mixed feelings: *me* put flowers in a show? Shows were for women who had nothing to do but make elaborate arrangements of flowers. Besides daffodils look beautiful growing outside, not cut off and sticking out of a vase. *But* my flowers were better than any others I'd seen and I really should show them off to others, shouldn't I?

Somehow I reached a compromise. I picked up a show schedule, cut enough flowers for half-a-dozen entries, and gave them to my wife to take down to the hall and arrange them for me. After all what are wives for if not to compromise?

I had special hopes for a beautiful three-headed Parcpat (7Y-O) but some of the others like Silver Chimes and Charity May also looked set for prizes. Immediately after school that afternoon I rushed down to the hall as excitedly and hopefully as a school-boy. Parcpat had won first prize and I'd also won two seconds and two thirds; not bad for six entries!

But the winning Parcpat, somehow, didn't look quite right and I accused my wife of not staging it very carefully. Amidst a great deal of laughter I got the whole story from her. In her great rush to the hall she'd dropped my precious Parcpat in the middle of the main street. When she started to stage them she'd found it missing and had started to rush home to look for it, only to find it still lying in the road. She retrieved it, and knowing what my disappointment would be, had decided to stage it anyway. It did not look quite right because it had only about two inches of stem left after being run over and was virtually resting in the top of the vase. My wife is a genius who'd invented first time up one of the oldest dodges of the flower exhibitor.

Anyway this experience was enough to hook me on daffodils and my growing addiction was confirmed the following year when I won champion double with the only perfect Golden Ducat that I've ever been able to grow.

That was eight years ago and now most of my garden is down in daffodils. My year is arranged around the planting of bulbs, caring for the flowers, visiting shows, pollinating, harvesting and planting seeds, and digging bulbs.

My wife has never forgiven herself.

MARIONETTE AND MUSTARD SEED

Recently in reading an article by Alec Gray in the *Journal* of the Royal Horticultural Society (September 1965, p. 375) I noticed this statement: "From *poeticus* crossed with *asturiensis* I raised 'Mustard Seed' and 'Marionette,' nice little plants, the latter being the only real miniature I have produced so far with a red edge to its cup. I have lost both, but I think they persist in America." As I had believed that all the miniatures we have in Division 2 and 3 had jonquil (including *N. watieri* or *N. rupicola*?) blood instead of *poeticus* this gave me a new appreciation of these two cultivars as possible breeding material for fertile miniature 2's and 3's. Mary Lou Gripshover has some seedlings from Bagatelle x Mustard Seed which show interesting variations in form and cup color. I hope others will follow her lead.

—ROBERTA C. WATROUS, *Washington, D.C.*

ORIGINS OF THE PUYALLUP VALLEY DAFFODIL FESTIVAL

The Puyallup Valley Daffodil Festival is an outgrowth of the daffodil industry in the Greater Puyallup Valley. The numerous large bulb fields in early days gave the community a large number of daffodil blooms, for which they had no use at that time. Mostly they were simply plowed under as fertilizer. Millions of blooms annually were treated in this fashion.

A Tacoma photographer, Lee Merrill (presently a Daffodilian), came up with the idea of having a parade of sorts featuring daffodils as live decorations. Prior to this idea, the Puyallup Valley had several events which honored the daffodil industry.

One early annual event of spring was the Charles Ortons' famed "Tea," for the socialites of the day to honor the spring beauty of their new valley crop of bulbs.

Sumner's long-time annual Fishermen's Banquet became "The Bulb Banquet," and it honored the new bulb industry and the "Bulb" show of blooms in the high school gym was a colorful event.

"Bulb Sunday" became a celebration of sorts when area Chamber of Commerce delegates met with growers and the flower show people and promoted a tour of the Valley on a given Sunday, when the bulbs were in their fullest bloom. Ads and maps were displayed in the various local newspapers, giving directions to the fields.

So there they were—three forerunners of the festival itself—Bulb Banquet—Bulb Show—Bulb Sunday.

Then came that historic meeting in 1934. (Until then bulbs were sold by the ton, and the flower which represented only about 10% of the ultimate weight was regarded as virtually worthless, hence the plowing under.) Merrill and Valley growers decided they could have a parade of bicycle riders wearing garlands of daffodils as is done in Holland at Easter time with tulips . . . a happy time with people from all around . . . even a queen.

When growers decided to start cutting the long-stemmed blossoms, it was the beginning of the concept of the "Daffodil Festival" as it is known today. Bicycles gave way to cars decorated with fresh-cut daffodils and the "queen" sat in a beautiful grand monument of daffodils, built by Lorenzo Ghilarducci, to the delight of photographers . . . at 12th and A Street in Tacoma.

(The first queen was chosen at random, she happened to be the first pretty girl who happened by after the decision was made to have a parade.)

Bulbs still sell by the ton, and now the flowers are seldom allowed to bloom but cut and put into cold storage for the cut-flower industry, but for 40 years, or so, there has been a Daffodil Festival to salute spring, to bring pleasure and profit to the Greater Puyallup Valley, thanks to the vision, the long hours of hard work, the backing of growers, and the support of thousands of citizens who support the Festival by buying Booster Buttons.

The Festival story is also told in the 20,000 brochures sent out annually, as well as the 5,000 pictorial programs. Articles and photographs are sent all over the United States, even abroad, urging people to come and greet spring in Daffodil-Land. We have become known as the "birthplace of spring."

Some of the positive results of the Puyallup Valley Daffodil Festival include area identification. Also, the Daffodil Festival has grown until it is now the *THIRD* largest floral festival amongst the membership of the International Festivals Association. The Pasadena Tournament of Roses and the Portland Rose Festival precede us.

Beauty is our business, and it has become big business. Daffodil-gold has become a boon to the area's business community. Tourism is encouraged, and last year package tours for seventeen tour groups were arranged by Festival personnel. The total economic input to the area is about two-million dollars, including the Festival budget. This figure does not include the undetermined value of the bulb industry itself to the area; the value of the cut-bloom industry; or the city and county athletic budgets for Festival sporting events.

We invite you all to visit Daffodil-Land, the home of King Alfred in the Greater Puyallup Valley. His subjects are magnificent as they spread their golden mantles over the fields beneath the snow-clad slopes of majestic Mount Rainier. Come greet spring with us, and see our "Festival of Flowers."

—JAN BUSSEY, *Festival Public Relations*

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We wish to express our sincere appreciation for your patronage and encouragement this past season. Our 1981 color catalog is scheduled for an early March publication and is free to all ADS members who desire a copy. If yours fails to reach you by April 10, please advise us at that time. Due to the limited available stock of many cultivars, spring and early summer orders are encouraged to avoid disappointment.

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Daffodil Pin (tie back, pin back, or ring back)	\$ 7.50
Handbook for Exhibiting and Judging Daffodils, 1974	2.25
The Daffodil Handbook, 1966 Paper Cover, \$3.40; Cloth	4.90
Print-out of Daffodil Data Bank \$15.00; with binder	\$20.00
Set of at least 15 numbers of Daffodil Journal (no choice)	5.00
Single copies of Daffodil Journal	1.50
Journal Binders, \$7.50 East of the Mississippi, \$8.50 Canada and West of the Mississippi, \$10.00 Overseas	
ADS Approved List of Miniatures, 1979 two 15-cent stamps each. RHS Yearbooks on Daffodils (as copies become available) write for years on hand with prices.	
RHS Yearbook, Daffodils, 1980-81	5.00
Daffodils in Ireland	\$5.00
Show entry cards 500 for \$11.00; 1000 for \$20.00	
RHS Color Chart	12.50

Make checks payable to American Daffodil Society, Inc. Prices include postage. Correspondence is invited concerning out-of-print publications on daffodils. Copies of these are sometimes available or names will be placed on want list.

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