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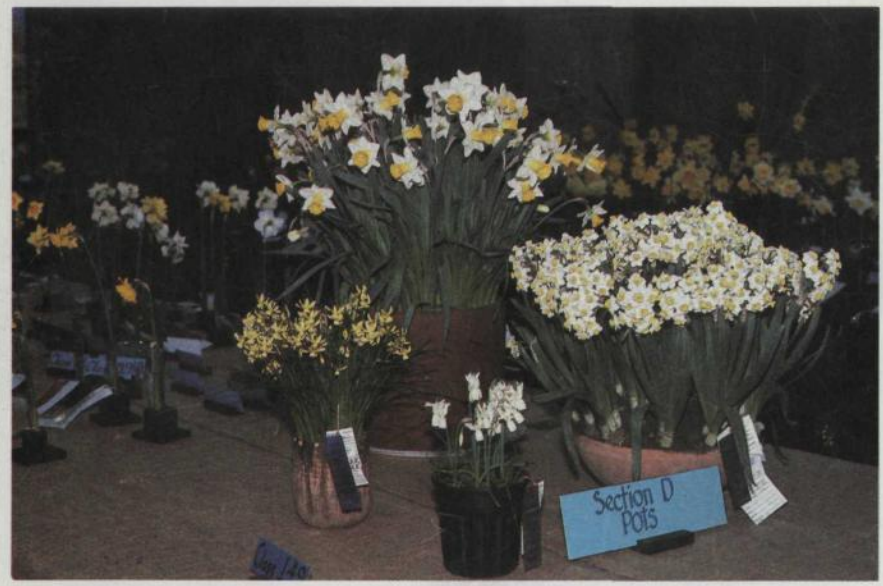

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Articles and photographs (glossy finish) on daffodil culture and related subjects are invited from members of the Society. Manuscripts should be typewritten double-spaced, and all material should be addressed to the Editor.

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IN THIS ISSUE

THE COVER PHOTO

was taken at the Northern California Show at Walnut Creek. The spectacular pots are filled with blooms of Chapeau, *N. tazetta* Compressus, Hawera, and *N. triandrus loiseleurii*. The pots are the work of Sid Dubose and Nancy Wilson. (Gripshover photo)

IS THERE SPRING IN CALIFORNIA? OR EAST IS EAST AND WEST IS . . . WONDERFUL

RICHARD EZELL, *Chambersburg, Pennsylvania*

Ages ago in my impetuous and imprudent youth, I published in these pages a remark to the effect that the state of California had no season that could properly be called spring. Of course I had never been to California, and so was relying upon the testimony of obviously unreliable witnesses. Happily, the lynch mob sent out from the Bay Area failed to find me. But a letter from Ken Dorwin did: nettled but good humored, he cited copious statistics designed to convince me that California had no season *except* spring—and had it all year round. I resolved immediately to check the situation out and, if necessary, correct any injustice that might have been perpetrated by my casual and uninformed comment.

Now, ages later, my good resolution is being carried out. I cannot, alas, confirm the presence of a twelve month spring, but am obliged to report that for at least ten days in the middle of March California, from Corona Del Mar up to Walnut Creek, has a florious spring indeed, and one filled with handsome daffodils in the gardens and the shows of members of the Southern and Northern California Daffodil Societies.

The first of those gardens I saw, Marilynn Howe's, greeted me with a hugh clump of the tazetta hybird Avalanche, its great trusses of florets held proudly up almost hip-high. And this clump wasn't even in her garden proper, but right out on the street beside the driveway. Marilynn's response to my slack-jawed admiration was just what you'd expect: "Oh, Richard, you should have been here last week; it *was* fairly nice then." Marilynn's garden is a small backyard affair located smack in the middle of urban Los Angeles, where temperatures rarely fall below 40° F. or rise above 85°. (Perpetual spring?) Her exhibition daffodils are grown in raised beds. Did I say raised? They are raised fully twenty-four inches, constructed of cement blocks, and filled with an artificial soil mix designed at the University of California and widely used by growers throughout the area as the medium for potted daffodils. Because her space is severely limited—less than 400 square feet in beds—Marilynn is careful to grow only outstanding cultivars. From her small garden this season came one Gold Ribbon winner and the runner-up for that award at two other shows.

Up and out of the city a bit, in the hills above Anaheim, the garden of Nancy and Gene Cameron is not so rigorously confined to daffodils, but is a beautifully landscaped arrangement of many perennials, shrubs, and a few citrus trees (from which Gene casually picked our breakfast fruit to the naive amazement of this eastern vistor). Nancy, like most California daffodil growers, had a number of bulbs outdoors in pots. It was fun to watch her interrupt her cooking chores for a few moments to reach through the kitchen window and turn the pot of Loch Lundie on the sill to check on the progress of its buds.

Farther up and out, at La Canada, Polly Anderson's wonderfully relaxed garden (she says what she grows best is weeds) fairly teems with rare bulbs and plants of many kinds, lots of the bulbs I never even heard of (and, I suspect, some *she's* never heard of. Did *you* ever see seven or eight different kinds of haemanthus in one garden?)

Here, practically in the shadow of the snow-capped peaks of the San Gabriel Mountains, Polly's garden includes 75 year-old orange trees...under one of which is nestled a most charming tiny cyclamineus hybird seedling of her own raising, quite like Flyaway, and just as appealing. You'll hear more from this one, if it will only grow away from its favorite orange tree.

Three hours or so up the coast the famous establishment of Bill and Rosemary Roese is the world's leading daffodil zoo, where Rags the dog chases the cats but doesn't hassle the 200 pigeons, the 5 parrots, or the half dozen fancy ducks.

Bill grows his daffodil stocks in long beds six to eight feet wide. His soil, unlike those I saw farther south, is rather sandy. Rainfall is scant throughout the daffodil growing areas of southern and central California. Everyone waters, perhaps no one more than Bill—in the midst of his blooming season this year he'd had no rain in over two months.

The Roeses must surely run one of the world's smallest-scaled commercial daffodil enterprises, but don't let that fact cause you to overlook them; they have some great things to offer: their own seedlings, a few of friends like Ken Dorwin and Madeline Kirby, and good stocks of a couple of truly excellent rarities, Lemon Candy and Gracious Lady.

At the bottom of San Francisco Bay Mary Lou Gripshover, that marvelously transplantable mid-westerner, is growing her daffodils in the oddest of settings. Living for now in an apartment with no ground about, she set out for the country to find a plot to rent, but before driving five minutes—still in the center of the urban sprawl of the city of Sunnyvale—she came upon a five-acre cherry orchard. Braking to a stop, she accosted the owner, and in less time than it took Eve to get Adam to eat the apple, she had talked him into all the space she needed of fertile, fenced-in, daffodil growing area. And he not only wouldn't accept any rent, but provided cost-free weeding services.

(Paradise she may have found, but it has proved a one-year-only paradise; she's been evicted even as Adam and Eve were...though for no comparable reason, so far as I know.)

Most of her bulbs, moved from Tennessee last fall, made the transition in grand style: in particular, her pinks, doubles, and white trumpets seemed healthier and happier than ever before.

Up at the top of the Bay, east of Berkeley, in Walnut Creek, Jack Romine operates his Tetraploid Haven. He doesn't so much raise daffodils, or daylilies, tulips, roses, or vegetables...as he raises tetraploids. Or, rather, he raises diploids, and he "tetras" them. In so doing he has accomplished some remarkable feats. I won't go into such marvels as his tetraploid Swiss Chard (you may well see it some day in your vegetable seed catalog), but must comment on two of his daffodil creations. First he "tetraed" a clone of *N. bulbocodium obesus*, and then crossed it with pollen of standard daffodils. The results have produced the most interesting and attractive specimens yet seen for classification in Division 12. Little Soldier (12 Y-Y) (*N. bulbocodium obesus* × Chemawa) has been registered, and equally good is a 12 W-Y bulbocodium seedling from pollen of Festivity. Back home in Chambersburg I described these little wonders to Bill Bender, who asked, "But what did a cross of bulbocodium and Festivity *look* like?"

"Well," I replied, "it looked just exactly halfway between the two parents."

"Sounds awful," he said.

"Yes, but it isn't awful at all," I answered. "It's surprising, and unique, and neat, and...well, *cute*. Oh, you'll have to *see* it." And I hope all of you will.

GRIPSHOVER

Little Soldier

The two California shows I saw, that of the Southern Society at Corona Del Mar and the Northern at Walnut Creek, were particularly fascinating in their differences from eastern and mid-western shows, the first notable difference being the settings in which they were held. At Corona Del Mar, Sherman Gardens is a beautiful experience, less strikingly so to the natives, I'm sure, than to an easterner unaccustomed to the heady scent of jasmine emanting from the great hanging baskets surrounding the display area, or to the vast beds of multi-hued primroses on all sides. (It is easy to understand how daffodils have more trouble attracting attention in California than in Pennsylvania: they have *so much else* there.)

At Walnut Creek the show was held at Heather Farms Garden Center in a light, airy room with picture windows all round providing vistas of rolling hills, and even of Mount Diablo in the distance.

Both shows featured better miniatures than I am accustomed to seeing in the East (outside those beauties they grow in Virginia) and the best tazettas I ever hope to see. There were few blooms from Divisions 3 and 4, and almost none from 9. But in California the season is so stretched out, relative to that in the East, that later shows there would, I'm sure, produce more in these later flowering Divisions.

The most exciting thing about the California shows was the number of seedlings in competition. At Corona Del Mar the Rose Ribbon went to a flawlessly elegant yellow cyclamineus hybrid of Gerard Wayne's which narrowly beat a three-floreted, pink-cupped triandrus hybrid of Harold Koopowitz's that represented a distinct and attractive advance in its class. Harold won the Miniature Rose Ribbon with a bulbocodium seedling. Here too I saw my first seedlings of my old friend, Helen Grier, the Dean of Southern California hybridizers; additionally there were handsome seedlings from Sidney DuBose throughout the show.

At the Walnut Creek show a week later Sid's seedlings were in competition for top awards in many areas, winning the trophy for best white with 435-12 (2 W-W), an Easter Moon seedling which triumphed over good blooms of White Star and Silent Valley, as well as a couple of other promising white seedlings.

This show was essentially dominated by seedlings, the pink trophy going to Bob Jerrell's named Eileen Squires, and the Gold Ribbon to a named, but unregistered, seedling of Ken Dorwin's, Miss Primm, exhibited by Bill and Rosemary Roese, who also took the Rose Ribbon with their

3/17/85 (2 Y-R) (Air Marshall × Heathfire). The Miniature Rose Ribbon went to Mary Lou Gripshover for an open-pollinated Baby Moon seedling.

Throughout my visit I had been impressed with the pot-grown daffodils I had seen—at Corona Del Mar a blue ribbon was awarded to a lovely pot of the triandrus hybrid Ruth Haller, exhibited by...Ruth Haller—but at Walnut Creek I saw the four best pots of daffodils ever. I kept going back to admire them time after time. One was a small pot of the species *N. triandrus loiseleurii*, exhibited by Nancy Wilson, which was crammed with nine graceful blooming stems. The other three pots were *super*-crammed with blooms. Really. Sid DuBose entered pots of Chapeau, *N. tazetta* Compressus, and the miniature, Hawera, in which he had planted two or three layers of bulbs, one on top of the other. The amount of bloom was simply staggering to one who had seen nothing of the sort before. Surely, the difficult trick must be the management of the pots to get such symmetrical arrangements of the blooms, and all open together. (Madame Editor, please talk Sid into an article on super-pot culture.)

Yes, Virginia, there *is* a spring in California.

As you can no doubt determine from the preceding, I have been utterly won over by the climate, the flowers, and the daffodil people of California. There are, to be sure, some negative aspects: as Helen Grier points out to newcomers in an excellent "guide" to growing daffodils in Southern California that is distributed free by the Society there, the expression "sunny California" also means "drought-stricken California," and there are adobe soils, and Santa Ana winds, and the lack of chilling temperatures; plus there is the fact that land can cost as much per square foot as gold does per ounce.

But in my brief visit I saw excellent flowers and wonderful people determined to grow them well and to make new ones; and I hardly scratched the surface of gardens and people I'd have liked to have seen. Ah, but next time...

Rx FOR BASAL ROT

TOM D. THROCKMORTON, *Des Moines, Iowa*

(from the Hybridizer's Robin)

From time to time, almost everyone seems to be afflicted with basal rot; and over a period of thirty-five years, I have had my share of it. The worst losses I ever had came during a period of time when I was doing the most to prevent them. Early in my daffodil career, we left one automobile out of the double-car garage and put the newly dug bulbs on the floor in thin layers (not in piles) and left them there for couple of months. There they would dry; and sometime later in summer or early fall, I would take a thumb and knock away the clay and outer dead scales and uncover the bulbs before planting. I always shook them up in a sack with some form of mercurial fungicide, then planted, and they did fairly well, although losses from basal rot were certainly apparent each year. I then decided to do a much better job; and after drying the bulbs for awhile, as above, I dipped them into a solution of malathion and formaldehyde and spread them out in a cool room in the cellar. From one-third to half of the bulbs subsequently spoiled and many of them proved hollow shells filled with Tarsonemius Mites. After this catastrophic occurrence, I began treating the bulb beds just as the foliage was well matured with a rather strong mixture of formaldehyde inserted in the soil by means of a Ross Root Feeder. This, as you can well imagine, caused the foliage to die down fairly soon, but when the bulbs were dug they were all clean, firm and healthy; and I thought my problem was at an end. However, treating a large area with formaldehyde using a Ross Root Feeder came to be an impossibility. When I first heard about benomyl (Benlate), no one knew anything about its usage with bulbs or its dosage or anything else. I had, at that time, bought a hot water bath that would hold about fifteen gallons of hot water at a constant temperature and was determined to give my bulbs the hot water treatment from time to time. I have never had any known nematode problem, but I had heard from the late Guy Wilson who said that a couple of hours of hot water treatment "toned-up the bulb beautifully." I was willing to have my bulbs toned-up, so procured the equipment at no small expense. It seemed to me that the ideal thing to do then would be to add some of this new benomyl to the water, which I did in rather uncertain amounts but it certainly made it good and cloudy, and the bulbs were treated for two hours and then allowed to dry on the garage floor again. They were then hung in rough mesh bags from wire coat hangers beneath an overhanging board deck on my house. This allowed them to dry out for a week or ten days and they were then transferred to a clothes line in a room in the basement where the air conditioning vents played directly on them throughout the rest of the summer. This was an extremely satisfactory way to handle the problem and did extremely well. However, this heat treatment proved to be an attempt to "gild the lily" and I desisted after learning about the "cold dip." I have been convinced for years that

the basal rot fungus is prevalent in any and every soil and just needs a handy place to make a good start. It does require heat and it does require moisture and if either one of these prerequisites is not available, basal rot does not occur. I am also convinced that basal rot is by and large often a systemic disease and bulbs which appear perfectly normal for a year or two may come down with basal rot later on. Believing it to be a systemic disease, I have for the past seven or eight years dug my bulbs when the top foliage is still green enough to make a good handle. The roots are left attached to the basal plate, the leaves are cut closer to the bulb and the bulbs are dropped into a large garbage can filled with a good mixture of Benlate and water. Don't ask me the exact proportions but a couple of handfuls of Benlate will usually do the job in a large garbage can. They are allowed to remain in contact with this material for at least one-half hour and are, of course, in mesh bags while in the soak—obviously keeping the varieties apart. I might also add that before the bulbs are placed in the Benlate mixture, they are washed off rather vigorously with the garden hose to remove most, or all, of the clinging dirt and leave the clean white roots dangling. I am convinced that the roots take up Benlate from the solution and what may be a systemic infection in the bulb may well be cured by such a treatment. As a matter of fact, I have taken several offsets from bulbs rather badly diseased with basal rot and have given them this treatment and they prospered afterwards without difficulty. After thirty minutes in the bath, the bags are removed, hung on wire coat hangers and aired beneath the wood deck as before. Then they are hung in the basement where the constant stream of air conditioning keeps them dry and fairly cool.

Following the above measures, I can count the bulbs I have lost on probably one hand in the past five or six years. For many years I was really unable to grow good white daffodils. But now, the garden is filled with them and I give them no particular thought—basal rot just does not seem to be my enemy anymore.

I suppose it is possible that basal rot fungus may build up a resistance to Benlate or almost any other fungicide. However, in view of the multiple strains of fungus to be found in thousands of soil areas, I believe it will not be a problem for some time. Immunity problems of the type suggested in the other letters build up in only a limited geographic area, i.e., as one floor in a hospital or even one hospital. Later on, as is the case with penicillin, the mutant forms do give some difficulty. However, it is a well-known fact that the staphylococci present in our homes and working surroundings are vastly different from those present around hospitals and closely defined areas of that type, and most of the "rural bugs" still remain highly sensitive to relatively small doses of penicillin. However, I cheer all of those who are continuing their research into other antifungal agents and if and when Benlate should fail, I am certain that other products will be waiting in the wings. I can say, however, that a super-strength, super-long benomyl soak is not without its drawbacks. I did, as experiment, soak a double handful of Broomhill in a cold soak of Benlate for twenty-four hours. These

were then treated as the other bulbs; and when planting time came, I shared part of these with a friend in another part of the country and planted my own half in my garden. The ones I planted all had severely deformed flowers. It appeared as if really some very toxic agent had appeared somewhere on the scene. It was not long after this that I received a note from my friend stating that the Broomhill bulbs I sent her all put out deformed flowers and what was the problem. The problem, of course, solved itself in the next season when all plantings produced beautiful blooms of Broomhill, several of which were entered in exhibition. At the time of the cold soak, the flower bud was obviously in the process of being formed and the material taken up by the roots had exerted a malign influence on its development. So much, however, for the proof that benomyl is a systemic drug. So much for basal rot!

BETWEEN TWO WARS—A LONG TIME AGO

JAMES S. WELLS, *Red Bank, New Jersey*

November 11th, 1918. The war to end wars was over and my very earliest recollection is of driving around the city of Leicester with my father in his motorcycle. I was wildly waving a Union Jack in the side car. Later that winter I remember being extremely ill with the flu that swept right around the world, but 1921 was the year we first went to the Scilly Isles. I was just over six years of age.

Everyone was climbing out from the effects of the war, including the daffodil industry in the Scillies which had, perforce, been neglected during the four years of conflict. The Tresco Bulb Gardens, owned and operated by the Dorrien-Smith family, had decided on a substantial program of rehabilitation for which a bank loan had been obtained, and my father was engaged as the new manager. We moved there early in 1921, a year which produced one of the longest and hottest heat waves yet recorded.

Tresco was sheer paradise for a young boy. There were no cars—there are still none on Tresco to this day—and apart from a few hours of indifferent schooling, I was left to my own devices. Roaming the island, I came to know every detail, every point of interest, and spent countless hours shrimping at low tide, gathering buckets of small clams which we called cockles on the flats of Pentle Bay, and wandering wherever I wished without let or hinderance. My memories are vivid and when I look about me now, here in metropolitian New Jersey, I realize how fortunate I was to have had a time of such complete freedom.

I had no inkling of what was to come; and therefore as autumn moved into winter and the bulb season began with Paper Whites and then Soleil d'Ors, I began to see for the first time the narcissus season unfold in all its variety and richness.

Bulbs were grown, then and still, in sheltered strips of land called "gardens" which were surrounded with thick and tall hedges usually of *Escallonia macrantha* with its pungent smell, shiny sticky deep green leaves, and bright red flowers. Some gardens had hedges of veronica as we called it then—now it is known as hebe—and in some areas a new plant, a form of pittosporum from New Zealand, was being tried. These hedges were essential in the open field cultivation of narcissus to provide protection and shelter from the devastating gales which always swept in from the Atlantic sometime each winter. Even with wind velocities of up to seventy miles per hour, the area inside the gardens could still be quite tranquil, and the flowers would not be harmed.

At the base of every hedge there was a thick line of daffodils of all kinds, remnants of the varieties which had in past seasons been discarded as rubbish when the land was cleared for the rotation crop of early potatoes. Many bulbs rotted, but sufficient remained and eventually became established to form dense thick clumps, filled with blooms. Everything could be found somewhere, mostly old Leedsii types usually not now in production. But occasionally one would come across gardens which had cropped one of the current varieties, and there one would find Golden Spur, Sir Watkin, Princeps, and Maximus, but only an occasional Horace, which then was one of the newest forms of poeticus.

I wandered the gardens interested in the main crops coming along but mostly to see what I could find in the wild types growing along every hedge and headland. The scent was heady in the packing room where all the day's pickings of Sols were set into a deep warmed pit to drink water overnight and open up before being bunched for market the next day. Then they were taken by small boat to the Scillonian at St. Marys which sailed late in the afternoon to reach Penzance in the evening. The flowers were immediately put onto an overnight train and next morning—two days from picking—were in the market at Covent Garden. I have a pot of Soleil d'Or now in flower in my greenhouse and each time as I pass, the scent brings back vividly the sensations of more than sixty years ago.

On one of my trips through the gardens, I noticed a "rogue" in full flower in a bed of Elvira. I had no idea what it was but I picked it, which was not the thing to do. Later that day I had been asked to Tresco Abbey to have tea with the Dorrien-Smith children, Tom and Ann, who were about my age. In that isolated spot there were few people for me to play with as a youngster and the same was true for them. So occasionally I was asked to tea, an exercise which I found somewhat intimidating.

The Abbey was dark and rather grim, with long corridors lit with fish-tail gas jets—no electricity of course—and I felt, and indeed was, very small. We had gathered in the drawing room and tea was about to commence when in comes the Major, Major Arthur Dorrien-Smith, a broad and burly man of whom I was most certainly in awe. Marching up to the tea tray for his cup, in a booming voice he said to the room, "Who picked that rogue in the bed near Call's house?" I knew at once that it was

I, but no one gave me a thought; everyone else denied the crime, and I made myself as small as possible. But the sinking feeling I had when that booming voice asked the awful question is still very clear.

Time passed. We had to leave Scilly because I could not get a proper schooling; and this, combined with family problems, made us move back to the mainland. I was desolated at leaving my beautiful island, for I could not imagine that I would ever see it again.

In 1926 we were living in Bournemouth on the south coast of England. Our family had fallen on rather hard times but my father managed to keep us going by writing, mainly about bulbs to trade papers in both England and this country. Thus he came to the notice of a Mr. R.F. Calvert who wished to publish a book on daffodils and he engaged my father to plan it and then ghost write it. Mr. Calvert had access to many valuable and extremely scarce books from the Lindley Library, which came in a steady stream to our home while he was writing. The book was published under the title of *Daffodil Growing for Pleasure and Profit*. In this there is also one chapter written under my father's own name.

Mr. Calvert had taken up the growing of new daffodils at Coverack in Cornwall where he had a substantial collection at this time. He put out a most elegant catalog for the Carnsulan Nurseries with colored illustrations. A letter arrived from him one day requesting my father to come down to Cornwall to assist in lifting some of his newer and rare stocks. One in particular was of great importance. There was only the one bulb, for which a substantial price had been paid. (I believe about 50 pounds or $250 then, being probably equivalent to at least $2000 now.) So armed with a new razor blade, my father spent three pleasant days in Cornwall, lifted the bulb, removed the one offset, and planted them back. The bulb was called Fortune.

I have been back to the Scilly Isles many times since, and every time I go it casts the same wonderful spell over me that it did when I was young. I returned first some ten years later as a young adult with a friend. Then I had a holiday there with a young lady I thought I would marry—but did not. Finally, after the second world war was over I returned with my wife and our two sons. They all love the islands as much as I do, and we had a wonderful time.

But one of the marvels to me is to come round the corner of Tresco in the launch and enter Pentle Bay. In 1921 it was my favorite spot, a wide crescent of clear, clean sand with gentle waves lapping the shore. I know that if I were to catch a plane today and return there it is the one place I know that has remained exactly the same for the past 65 years. And there are few places in this world about which this can be said. I hope that it remains as it is, untouched and unspoiled, a joy forever.

SOME ROMAN GARDEN 'NARCISSUS' OF 1638 A.D.

LES HANNIBAL, *Fair Oaks, California*

On reading E.A. Bowles's *Handbook of Narcissus*, one gains the impression that there was no end of confusion over daffodil nomenclature during the fifteenth and sixteenth centuries, and that most names were as long as one's arm. Recently the writer had the occasion to examine the two chapters on "Narcissum notae & cultura" in I.B. Ferrarii's rather rare *Florum Cultura* of 1638 which describes the identities and culture of various flowering plants grown in Roman gardens around the years of 1625 A.D. This 500-page volume is unquestionably one of the first good gardening dictionaries published using movable type and copper plate etchings, since it was issued only a few years after such type and etching techniques came into use. At the time it represented an outstanding deluxe edition, being very well organized and written (in Latin, obviously), and admirably illustrated. Unquestionably it represented quite an expensive undertaking.

In that period the term Narcissus included all of the known Amaryllidaceae, not just Daffodils or Tazettas, so we find the Mediterranean Pancratium, Ismene and Leucojom included along with several recently introduced South African Cape Amaryllidaceae. It was only in 1500 that the Portugese under Vasco de Gama had found and explored the Cape coastal area so these South African bulbs were a new acquisition, and the fact that they were recognized as Narcissi (Amaryllidaceae) speaks well for Roman botanical integrity at that time. Remember this was 100 years before Linnaeus existed. Several excellent etchings, and one rather questionable one, of these Cape bulbs were included which aids identification. And we find that the *vulgar* or common name of *Amaryllis belladonna* was then 'Donna Bella'. Three variants of the *A. belladonna* are described. So under the index of Narcissi we find the following bulbs listed. The spelling is as then used:

Narcissus Anglicus	
N. Byzantius	(*N. tazetta* var.)
N. Corniculatus maior & minor	(Meaning horned)
N. Epidaurius	(showing gold ?)
N. Flauus	(Meaning pale yellow)
N. Incomparabilis candidus calice flauo.	(*N. incomparabilis* var.)
Candidus maior & minor	
Exflauo in sulphureum languens	
Perpetuo flauus	
Sulphureus flore multiplici	('Sulphur Phoenix' type ?)
Sulphureus summo calice luteo	
N. Indicus e rubro croceus flore liliaceo	(*Cybistetes longifolia*)
N. I. Liliaceus diluto colore purpurascens	(" ")
N. I. Saturo colore purpureascens	(" ")
N. I. Liliaceus Sphaericus	(*Brunsvigia orientalis*)
N. I. Puniceus gemino latiore folio	(*Haemanthus coccineus*)

N. I. Virginiensis flore purpurascent (Vallota ?)
N. Iuncifolius albus autumnalis (*N. serotinus* ?)
Albus maior & minor vernus (*N. watieri* ?)
albus sulphureo calice
N. Luteus maior amplo calice & folijs continuatis
N. Maior folijs conuolutis (Overlapping or convolute petals)
N. Maior calice tereti & folijs angustioribus (Poeticus)
N. Minor odoratus, simplex & multiplex (*N. jonquilla* var.)
N. Pallidus folijs reflexis (*N. triandrus/N. odorus*?)
Candidus foliosus
Candidus simplex
Pallidus simplex
N. Montanus serotinus sieu Musartus
N. Narboronensis (Sternbergia species from southern France)
N. siluestris
N. Roseum major & minor (*Leucojum roseum* forms)
N. Stellatus

For those having difficulty with Latin, particularly sixteenth century Latin, the letter v is often represented by u and j by i; thus *flauus* is flavus and *maior* is major. *Calice* is calyx or corona while *folijs* are the perianth segments. It is near impossible to correlate the Roman descriptive names with those used for similar bulbs imported into Holland or England since the northern European botanists were an independent group and created their own nomenclature quite disregarding that established by the Jacobian monks. A translation of the Ferrarii Latin text may clarify the identities more closely. However, several things are obvious: the Roman horticulturalists knew their plants well and their recommended methods of culture are practically modern. Another feature was that they used binomial nomenclature quite extensively 150 years before it was adapted in northern Europe through the efforts of Linnaeus. And finally Ferrarii and his Jacobian monk associates had a far better understanding of what plants constituted the *Narcissus* (Amaryllidaceae) than Linnaeus; For example, the identification of *Haemanthus coccineus* as a *Narcissus* shows acute botanical understanding, as Laurent Heister of Brunsvigia fame considered the etching and description to be allegorical since he took the five-parted spathe valve to be petals, which they are not despite their red pigmentation.

Geographically, Rome was in the heart of the Mediterranean 'Bulb Land' so one would expect to see more narcissus forms in use. We find several iris species and a dozen tulip, with some called 'corrupted.' Hybridization was unknown then as far as we know, so we suspect the bees did the 'corrupting.' As for planting instructions, we note one mythical etching showing the goddess Luna in her chairot wearing a new moon crown. Her cherubs are carrying bulbs while she points to Scorpio in the sky. If someone is interested, who is well versed in Latin, I'm sure that a number of us would appreciate a complete translation of these two chapters. Perhaps we, too, should plant our bulbs under the new moon while Scorpio is high in the sky.

"Bulb Planting Time," from G. Ferrarii's *Florum Culture*, 1633

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A house with daffodils in it is a house lit up, whether or no the sun be shining outside. Daffodils in a green bowl—and let it snow if it will.

—A. A. MILNE, *Not That It Matters* (Dutton)

A CHRISTMAS BOUQUET

BARBARA M. FRY, *Rosewarne, England*

To Scillonians it would be quite normal to be able to pick *N. tazetta* Soleil d'Or and perhaps the last of the Paper White for Christmas, following burning over or some other treatment to advance the crop. (See ADS *Journal*, Vol. 20, No. 4.)

In the less favorable climate at Rosewarne Experimental Horticulture Station, Camborne, it is more remarkable to have tazettas flowering naturally in open ground by Christmas without any treatment.

The tazetta seedlings which I raised at Rosewarne are in several series. The earliest to flower—from October to December—were bred from just four parents pollinated in 1969. All have yellow perianths with coronas varying from yellow to gold through to orange-red. By Christmas, 1984, these had finished flowering.

So our Christmas bouquet was made up of different types and colors of tazettas. Probably the most exciting flowers came from pollinations made in 1976-77-78 from which I selected a number of flowers with white perianths. These are quite unlike the earliest flowering white tazettas such as Paper White and *N. tazetta Orientalis* which will not flower outdoors at Rosewarne. Most of these very early white seedlings are derived from Gloriosus which is a spring flowering cultivar. They are vigorous and more robust than their parents.

Some years ago we had two or three bulbs each of four seedlings from Israel which were said to be early and have 'Sol' blood in them. After using them for breeding (under glass) they were sent to Scilly. Unfortunately they did not like the cooler climate compared with Israel so they pined away and died. Gloriosus was the only successful pollen used on them, resulting in a handful of selections. They have white perianths and yellow, gold, or bright orange coronas. A few have slightly reflexing perianths which give them a certain charm.

We also have selections from Gloriosus × Paper White which have white perianths of varying shapes and sizes and citron coronas, a few of which develop cream. These are vigorous and have up to twelve florets on a stem.

Three from another cross have a strange background for flowering in time for Christmas. The seed parent was Gloriosus and pollen was from a seedling originating from 8 Y-Y × *N. poeticus* Ornatus. They have creamy white, fairly broad perianths; two have bright orange coronas with sixteen to twenty-two florets and their sibling has a yellow corona with up to twenty-three florets on a stem.

My favorite in this Christmas bunch of whites comes from Avalanche × Autumn Sol. It is a very substantial flower with florets almost 5 cm in diameter (Soleil d'Or is about 4 cm). It has a smooth, broad, rounded, overlapping, circular perianth which is cream rather than white. The corona is a clear citron yellow with a tinge of orange in the eye. There are

usually eleven to twelve florets on a stem. If this flowered at the time of daffodil shows it would surely win a prize!

The third and totally different series are poetaz seedlings bred from Matador, a spring flowering cultivar. A few of these are early enough for our Christmas bouquet. They usually have six to eight florets, which are fairly large with broad, rounded perianths of varying shades of clear yellow. The coronas are bright orange, one is orange-red. It only needs four or five stems to make a showy vase of these. The early flowering has been inherited from our autumn flowering yellow seedlings bred from Autumn Sol, French Sol and Newton.

For the fortunate people with a climate mild enough to grow these tazettas, there are many advantages, particularly as cut flowers. They can be picked when the first one or two florets are open and all the buds will open in water. Dead florets can be removed as necessary. I usually put them in a cool room at night which prolongs their life.

Out of doors in our climate we have a succession of flowers on individual clones which could take four or five weeks from first to last flower, depending on the temperature, whereas the flowering period of trumpets and cups in the spring would be seven to ten days.

As I write this in mid-January, the tazetta seedlings are tucked up under their glass frames for protection against the severe frost and snow which might damage them. We shall have to wait until the temperature rises for the next batch to flower.

BARBARA M. FRY

Left: Avalanche × Autumn Sol; right: Matador × (Newton × *N. t. aureus*).

BEGINNER'S CORNER

FRANCES ARMSTRONG, *Covington, Virginia*

Are your daffodils too crowded? Even if you grow them as a landscape plant only, the time comes when they must be dug and thinned. And if you want to exhibit your daffodils in shows, division every two to four years is necessary in most climates.

Dig the bulbs as the foliage begins to fade and before it disappears. Handle the bulbs carefully, keeping the various cultivars separated and labeled, and out of direct sunlight. I prefer to dig no more in a day than I can clean, put in mesh bags, and perhaps dip in a fungicide such as benomyl or Formalin.

Have you been losing some of your bulbs in the ground? Chances are the cause is either basal rot or the larva of the narcissus bulb fly. Basal rot accompanies high soil temperatures and poor drainage. Dig your daffodil beds deeply, add humus, and sand if your soil is clay, until the beds are elevated four to six inches after settling and your problem with basal rot hopefully will go away. Planting in a new location is helpful. Even so, if your climate is hot and humid, a fungicide dip may be in order.

Benomyl, sometimes sold as Benlate, is easily obtained wherever garden supplies are sold and is the choice fungicide for *Fusarium oxysporum* f. *narcissi*. Formalin, a 10% solution of formaldehyde, is an alternate dip obtainable through pharmacies.

Benomyl is used at the rate of 3 tablespoons per gallon of water. The solution should be maintained at a temperature of 77°-110° F. I check this with an old candy thermometer. A soak of at least thirty minutes is recommended; a longer one is better and a stronger one will do no harm. A 0.5% Formalin soak for ten to fifteen minutes is sufficient. Soaking is best done within forty-eight hours of digging and the solution should be discarded at the end of each day. (Pour the benomyl solution over peonies or iris.) After the soak is completed, hang the bags of bulbs outside in shade until they are COMPLETELY dry. (See T. Snazelle, *The Journal*, Vol. 16, #1, Sept. 1979, pps. 35-43.)

As for the bulb fly, inspect each bulb very carefully. If there is a hole in or near the basal plate or if the bulb is soft, cutting into it may reveal the larva of the bulb fly. Unless it is a very expensive or rare cultivar, destroy the bulb. If you want to try to save it, dig the larva out and soak as above in a strong solution of benomyl three hours or more. For fly control use a soil drench of trichlorfon (Dylox R or Proxol 80SP) or chlorpyrifos (Dursban) at the base of narcissus foliage during the time of fly activity which is one to three weeks after the end of the blooming season.

In the deep South the consensus of growers seems to be that bulbs are better replanted promptly, as storage under hot, humid conditions is not well tolerated. In milder and colder climates the preference is for summer storage in well ventilated and not too warm areas. Some use air

conditioned rooms, others garages, tool sheds, and basements with outside ventilation or dehumidifiers. Do not place too many bulbs in one bag as they may heat up in the middle.

The leisurely (?) days of summer are fine ones to prepare beds for fall planting. While you are digging, add some superphosate down deep where the daffodil roots will penetrate as phosphate works through the soil very slowly if at all. Potash may be dug in shallowly or used as a top dressing. Do not use fresh manure as it encourages basal rot. Let the bed settle for several weeks or until planting time which is as soon as the soil cools to 54° F. (12°C.).

Those daffodil growers who garden in regions of sparse rainfall should prepare their beds differently, perhaps planting the bulbs in trenches to catch all the moisture available. Giving cultural advice in a country as vast as ours with all the climatic variation, not to mention that of our overseas members, is an impossible task. Temper these directions here with those of your gardening friends and your county extension agent.

Many thanks to Peter Ramsay for his very helpful and timely column in the last *Journal*. Are there any volunteers for future "Beginner's Corners?" Don't be shy!

SOME THOUGHTS AND THEORIES ON SEEDS AND SEEDLINGS

GEORGE TARRY, *South Wirral, England*

(from The Daffodil Society [Britain] Journal, *February, 1985)*

After growing named cultivars raised by others for many seasons, it is quite usual for some of our members to seize the opportunity to exercise their creative instincts and start raising seedlings and to display them at our shows. Newer growers often give the impression that an exhibitor showing a seedling under number has an advantage, but if they visit the plantings of any raiser, large or small, they will soon realize that an area planted to named cultivars will produce many more show flowers than the same area devoted to seedlings.

Nevertheless more and more members are exploring this fascinating side to our hobby and finding that the procedure for obtaining seed is quite simple. To produce seed, a daffodil bloom must be fertilized by pollen introduced to its stigma. For those who are not familiar with botanical terms, the stigma is at the center of the trumpet or cup and is surrounded by six anthers which are covered with pollen, a dusty powder which is usually yellow but may be whitish or pale grey. The pollen is ready as soon as the anthers burst to make it available, which may be shortly after the petals expand, but in cold conditions may be delayed for a day or so, and it remains in good condition for the whole life of the flower and even beyond. Pollen may be taken from a flower, enclosed in tissue paper and sent to Australia and New Zealand where it can be used successfully, if stored in dry conditions, when flowers open there five or six months later, although the seed crop will usually be less than with fresh pollen. Similarly, pollen may be sent and used in the reverse direction.

There are several ways of transferring pollen to the stigma. Those with scientific training usually recommend a small, soft, artist's brush; and while this is probably the best method when pollen has been removed from a flower which will be used at a show, it is unnecessarily slow and tedious if any quantity of flowers are to be treated in the open beds as the brush must be cleaned thoroughly and sterilized after each operation. By far the most popular method is the use of tweezers to remove a complete anther from a bloom and to apply it directly to the tip of the stigma. The stigma will be ready to accept pollen a day or two after the pollen on the same bloom is seen to be ready and will remain in condition for about a week in average conditions. As soon as a bloom shows the first sign of passing from complete freshness, the prospects of using it to obtain seed diminishes rapidly. When in good condition, the tip of the stigma will retain an obvious heavy coating of pollen, and with care it is possible to use one anther to pollinate five, six, or even more flowers.

Another method popular with some raisers is to use the tip of a penknife blade, or a similar implement. If pollen is particularly short, this will ensure that the maximum number of flowers will be pollinated. This is also valuable when pollen has been stored, or is taken from dead flowers, as the anthers will then be very dry and brittle and will disintegrate when gripped firmly with tweezers. The pollen should be scraped on to a smooth surface from which a small quantity can be picked up with the point of the blade and applied to the stigma. It is essential to wait for a still, windless day otherwise the wind will scatter far more pollen than you will use.

On a dry, sunny afternoon, the tip of the stigma may become too dry to retain the pollen and to overcome this the scientists recommend the use of various solutions. The experienced hybridist has his own solution which is readily available to all—a lick of spit. Just lick the end of a finger, apply the finger to the end of the stigma, and the pollen will then adhere as though the bloom is in prime condition.

One point on which beginners may be confused is whether the seed parents should have the anthers removed before pollination. Our scientific types recommend that forceps should be used on developing flowers to remove the anthers before the petals open. This may be sound in theory when working in a research laboratory or glasshouse and carrying out a pre-planned program, but has no relevance in an amateur's circumstances when the requirements of blooms for show must go hand in hand with the production of seed. Very few amateurs carry through a planned program but work primarily with the best material available when they have the opportunity and conditions to hybridize successfully.

From observations made from time to time in my own beds, I am satisfied that there is no need to remove the anthers from most of our blooms before pollination. If we make a close examination of most trumpet and long-cupped types, we find that they are not designed for self pollination as the anthers are situated behind the top of the stigma, so the pollen is most unlikely to arrive at the tip of the stigma without the aid of an outside agency. If we watch the bees and larger flies on a sunny day we will note that they will land on the top of the corona, and then crawl steadily into the corona towards the center of the flower to obtain nectar (or whatever they may be seeking), then they withdraw to the lip of the corona again with the upper part of the back covered with pollen. They take off, make a short reconnaisance flight, no doubt losing part of their load of pollen on the way, and land on another flower of a similar color to the one that they have left. This cycle will be repeated until either the observer tires of watching, or the insect moves off beyond the range of observation. There is little doubt that pollination by insects occurs when they enter the flower and thereby transfer pollen from one bloom to another, and on many blooms they can enter and leave without touching the stigma. This is confirmed by my own records which show that less than 1% of blooms are open pollinated, i.e. produce seed without any action on my part. If other growers find that their risk rate is much higher than that, they must then

take elaborate precautions to exclude insects from their blooms. To de-anther when pollinating a bloom that has been open several days serves no useful purpose. If it has already been visited by an insect nothing can be done (or undone) to offset any open pollination. The amount of pollen placed on the stigma by manual pollination will be so great that any subsequent addition by an insect is most unlikely to be productive.

With short cupped flowers the position may be different as the anthers may be very close to the top of the stigma and it may be necessary to remove one or more anthers to prevent mixing pollens. My own records show that the incidence of open pollination of this type of bloom is very low indeed, possibly because the larger insects find that they make poor operating platforms for their activities.

No doubt many amateur hybridists will disagree with my observations, but they may wish to note that the leading raiser of the last two decades, the late John Lea, went even further in the case for not removing anthers as he had evidence that removal had an adverse effect on seed production.

Having looked at the mechanics of pollination, we now consider the choice of cultivars most likely to produce the results we seek. The standard advice for all plant breeding is, broadly speaking -

1. Start with known reliable parents
2. Cross cultivars with complementary characteristics
3. Continue to use reliable parents but at the same time allocate part of the program to a search for even better parents.

If we look at the catalogues of most of the specialist suppliers, we find that the parentage is given in the form White Star (Rashee × Empress of Ireland). In Britain it is standard practice to put the seed parent first so that White Star came from Empress of Ireland pollen onto Rashee. Almost every grower will find that he already has several cultivars which feature regularly in these lists, and that more can be acquired for a modest outlay. It is tempting to start by copying the cross that has been sucessful in the production of recent novelties, but as these are the result of crosses made twenty years or more ago, we may be able to find something even better to use as at least one parent, especially with a planned approach.

To achieve this objective we must look at the characteristics of a first class flower which may be summarized as -

1. A high proportion of usable blooms
2. Good form—a flat perianth with good overlap and a round corona in good proportion
3. Adequate substance so that the flower remains in good condition for several days
4. Good clear color on opening and retained throughout the life of the bloom
5. A stem which is long enough and strong enough to carry the bloom with good poise

If we give points for each of the above headings to the range of cultivars at our disposal we find that they all have strengths and weaknesses. The

planned approach is to cross cultivars so that the stronger characteristics of one parent may offset the weakness of the other. At one time it was suggested that certain characteristics were transmitted from the seed parent and others from the pollen parent, but intercrossing over the years has reached the stage where there is little evidence to support any definite trend of this nature. Inevitably when crossing any two flowers part of the progeny will combine the weakest points of both sides, but these will be such obvious rubbish that they will be discarded without a second glance, especially if one or two of the same crop combine the best of both parents and show a definite advance towards the goal.

The development of any plant is a long term project and success may not come in one generation. Try to remember why you made each cross and look for progress in that direction. A "near-miss" seedling which may not be good enough to name may still prove a better parent than a named cultivar and be most valuable in a breeding program.

For all practical purposes, seed can only be obtained from growing bulbs, but pollen is available from cut flowers and most leading growers will make good blooms available, especially if approached in the friendly social atmosphere when the show is open. Make a short list of the types you require and restrict your request to a modest quota that you can use to good effect, and never try to open a discussion on this subject when an exhibitor is busy staging flowers.

Before we get too far in our operations, we must give some thought to the records which are essential for quick, easy, and ordered reference as the seasons go by. There are two main systems which may be varied to suit individual aims and ideas. The first system retains the same numbering from the application of the pollen right through to the trial of selected seedlings until they are named or discarded. The alternative uses a similar system up to selection for further trial, and then changes over to a separate record.

The first essential in the basic record is a symbol for the year which is most commonly in the form of two numbers, 83, 84, 85, etc., and then a series of numbers for the crosses made, 1,2,3,4, and so on. For a comprehensive record, each cross is noted against the next vacant number as it is made, together with the number of blooms pollinated and later the number of seed pods harvested, and the total crop of seeds is added. The main benefit of the comprehensive record is in planning future operations as it will give some idea of the value of each cultivar for seed production. If your total capacity is, say, 200-250 seeds a year, there is no point in pollinating a whole row of flowers likely to produce a crop of 20-25 seeds each, but with known shy seeders there will be a requirement to pollinate every available bloom.

The main weakness of recording crosses serially as they are made day by day is that the divisions and color combinations all appear at random and it will be necessary to check the complete records for many years if you do not wish to repeat crosses that have already been made. It is therefore more convenient to maintain the day to day record but to defer numbering

until all the crop is harvested when it can be rearranged in division and color combination groups 1 Y-Y, 1 W-Y, 1 W-W etc. Whichever line is adopted, the seeds will be identified by the number allocated at this time, 1/84, 2/84, 3/84 and eventually when selections are made at flowering time a further number is given so that the first selection of 3/84 is 1/3/84. Some raisers reverse this order and/or use a mixture of numbers and letters so that 84/3/A has the same meaning as 1/3/84.

The alternative system goes on the same lines until the flowering seedlings are selected for further trial when they are transferred to a new record. This method was used by Richardsons with the first selection of all starting at R1, with every further selection given the next available number untill R1000 was reached when they started at R1 again. Many others have used, and continue to use, this system, although it does scatter sister seedlings throughout the planting and necessitate frequent reference to records during the flowering season to confirm pedigrees. Every grower has his own ideas on what is required and devises a record which meets his own needs.

To revert again to our pollinated flowers, it is essential that they are marked to match up with records, and supported to reduce the possibility of loss or damage to a minimum. The traditional label was the small card price tag used by drapers, but this has been largely superceded by the plastic label as used for the naming of plants in garden centers. A thin bamboo cane makes an ideal support, but remember that the stem will continue to grow for some weeks and the 3-foot length will be required by harvest time. Allow for the growth of stem, as if it is tied too tightly, the stem may crack, the flow of sap will be arrested, and part of the crop lost. If the stems are not supported, some will go down with the ripening foliage in June and the maturing seed pods overlooked.

The first sign of a successful cross is the early fading of the bloom followed by an obvious swelling of the seed pod. Development will continue but there may well be a late collapse of some seed pods during June. The survivors will begin to ripen as the foliage yellows and they will need regular inspection from then on, twice a day in hot sunny weather. By this time the seeds can often be heard to rattle in the pods when shaken and there is a strong temptation to harvest at once, but it is safer to wait until the pod begins to split as not all the seeds will ripen at once. Collect the seed in small envelopes each bearing details of the cross and its number and make arrangements to sow it early, by the beginning of September at the latest. After that date, some of the crop goes dormant and will not germinate for twelve months.

The traditional container for daffodil seeds was a wooden box about six or seven inches deep with each seed allowed about one square inch or a little more. Such boxes have not been used for packing goods for many years and the price of timber is prohibitive so an alternative is essential. On a small scale, standard plant pots are suitable but rather wasteful of space. On a larger scale a suitable container can be made from 5-litre and 2½-litre plastic containers which are now used for a wide range of liquids

from motor oil to washing up liquids. By perforating the base and cutting off the top at the shoulder we have a container for 25-40 seeds which can be packed together closely.

The choice of compost is not critical; all popular mixtures have been used with equal success. Although in the wild all seeds germinate on the surface of the soil, it is safer to sow with about one inch of cover as this provides a more even condition of temperature and moisture and eliminates most of the possible losses from the depradations of birds and small animals. Germination occurs in a few weeks but nothing appears above ground for some time. From the seed the shoot grows downwards into the soil for some distance, then divides into two, one part continuing its downward path and the other turning back upwards to emerge eventually from the surface of the soil. Growth above soil begins to show from December onwards and will continue for many weeks, but only one thin round shoot will appear in the first season. An embryo bulb will form in the soil at the point where the initial shoot divides.

Almost every raiser reports a germination rate of about 70% which is broadly in line with most other seeds. This varies from cross to cross and ranges from 0%, usually restricted to a shy seeder with poor quality seed, to 110%, achieved by a free seeder where one or more of the poor, thin seeds, which were not recorded but were sown as "no-hopers," survive and grow.

In sheltered situations and milder areas, the seeds will be quite safe in the open; but in colder districts it is wiser to give protection in frostfree glasshouse or cold frame from December onwards, as the initial growth may be destroyed in its early stages by severe frost. The protection will also ensure steady development and give a better embryo bulb at the end of the first season. No special attention is required other than an occasional application of water. The surface of the compost may become covered with moss but this will prevent the germination of weed seeds which proliferate in most gardens. By March/April, protected accommodation is at a premium and the containers may be removed to a sheltered area outside where the growth is safe from damage from strong winds.

By June the single shoot will begin to yellow and wither and nothing further is required for some months except to water in dry weather. The original compost will contain little nourishment for a second season, so the top layer, down to the embryo bulbs can be removed with the aid of a label and replaced with fresh compost which contains a double dose of fertilizer to compensate for the deficiency in the layer below the bulbs. This can best be carried out in December as an odd dormant seed may germinate in the second season and be lost if the spent compost is removed too soon.

Growth will now continue with one, two, or three flat leaves per bulb. In colder areas, protection will be beneficial for the worst period of winter, as will a weak feed of high potash liquid fertilizer in all areas in late April and late May. Foliage will mature during June, when the containers may be emptied and the young bulbs harvested. They will vary from cross to cross and from season to season, but should be rather thicker than a

pencil and about half-an-inch long. These bulblets should be planted without delay in a prepared bed and can be set out with a dibber about three inches deep, four inches apart with eight inches between the rows. As they will remain in this bed for four seasons it is essential that the soil should be well prepared over the previous two or three seasons when other crops can be grown. Occasionally a few flowers appear in the first season in the open ground, 24-30% in the next season, and the majority when the bulbs are five years old. Selections must be marked each year as after the first flower the young bulb may divide and miss a season; if not marked early it will be lost.

In the early years of growing seedlings, first selections will be too generous; but with more experience about 10% will be chosen for growing on. Some of these will improve steadily and show their true worth when they are eight to ten years old. At all times when making your selections, remember why you made each cross and look for progress towards that goal. Many of our best cultivars came from seedlings that were not quite good enough to name.

The foregoing advice applies equally to cultivars in Divisions 1-4, 6 and 9, but most named cultivars in Divisions 5, 7, and 8 are sterile and will produce neither seed nor viable pollen. Where cultivars are fertile, this is normally stated in the specialist catalogues.

Finally, before pollinating every flower in sight next spring, sit down and calculate how much space will be required for every 100 seeds sown in the year. For the first two seasons they will be in containers. Then at 70% germination they will need 16 square feet for four seasons, with the same area added each year for each further sowing. With the average blend of luck and skill, you will probably be able to put half dozen creditable seedling blooms on the bench in the sixth year, from an area which would, by then, accommodate 150 bulbs. If you treasure prize cards and medals, stick to the named cultivars, but I doubt if you will ever get the same kick that will come when one of your seedlings receives its first award.

MARY ELIZABETH BLUE

Mary Elizabeth Blue of Chillicothe, Ohio, died in early April at age 79. She was the founder of both the Central Ohio and Adena Daffodil Societies and served on the ADS Board of Directors during the 1970s. She was an accredited judge of daffodils but requested the AJR designation in later years. She was a charter member of the ADS and one of its life members.

BULLETIN BOARD

FROM THE PRESIDENT'S DESK

After a very severe winter in most of the country, spring finally arrived in all its daffodil glory. How delightful it is to see those first buds open!

While the snow was piled high in banks against the greenhouse, inside a few tazetta daffodils were opening each day in all their splendor. In mid-winter there is nothing more prized by the daffodil fancier than the sight and smell of sweet-scented tazettas.

Late last summer and fall I potted up 75 pots of bulbs. Pots of Grand Primo and some others were already showing growth when I arrived home from down under, although they were stored under the benches of a cold house. They were watered thoroughly and when shoots were about two inches tall were brought to the light. *N. pachybolbus* was the first to bloom showing its fragrant tiny white flowers, and on Thanksgiving Day Soleil d'Or opened its beautiful yellow blooms with bright orange cups. What a pleasing aroma!

The daffodil house is a small Orlyt glass house, and the temperature is kept just above freezing at night, about 40 degrees. On sunny days the roof vent may open and allow fresh air to circulate. An electric fan runs constantly.

One morning, after a 22 degree below zero night, a crust of frozen soil appeared on some of the pots not yet ready to bring to the light. No damage was done. In a controlled temperature *N. pachybolbus* threw scapes over a period of ten weeks. It is surprising how long scapes will stay fresh in a cool, moist environment. The floor of the house is covered with pea gravel which is kept moist at all times. A small hot water radiator supplies heat when needed.

The pots are watered with a mild liquid fertilizer, and when through blooming are set out of doors in the sun when frost is over. They are kept growing as long as possible. The pots are not disturbed until August when the bulbs are repotted in fresh Metro-Media mix for the next growing season.

A few days after Christmas I potted up a few stray bulbs, the last of the season, and placed them under the bench for late spring blooms. This is an experiment to see how well they will do when the weather becomes warm.

In Holland experimentation is being done on the tazettas. The bulbs are held out of the ground until February, then planted for May and June bloom for the cut flower market. It will be interesting to see how well this method of culture works, since many of the tazettas are naturally early bloomers and will sprout and start growth out of soil and without water when the conditions are to their liking. It seems a way will have to be found to delay that early growth. Perhaps some day we can have daffodils twelve months of the year if we learn how to manage the growth factor.

—HELEN K. LINK

Daffodil Torte

1 package white angel food cake mix
Yellow food coloring
1 pint dairy sour cream
1/2 cup finely chopped almonds, toasted
3/4 cup apricot preserves
Confectioners' sugar

PREHEAT OVEN TO 350°. Prepare angel food cake mix, following label directions; spoon half the batter into a second bowl; tint pale yellow with food coloring. Spoon batters, alternating white and yellow, into an ungreased 10-inch angel food cake pan to make a layer. Repeat with remaining batters, alternating colors to make a second layer. (Do not stir batters in pan.) Bake in preheated oven at 350° for 40 minutes, or until golden. Invert pan, placing tube over a soda pop bottle; cool cake completely. Loosen around edge and tube with a knife. Turn out onto a wire rack. Split into 4 even layers with electric knife. Mix sour cream with almonds in a small bowl. Place largest cake layer on a serving plate; spread with one third of the cream-nut mixture, then ¼ cup of the apricot preserves. Repeat with remaining layers and fillings, stacking cake back into shape. Sprinkle confectioners' sugar over top. Chill several hours, or overnight. Slice into wedges with an electric knife. Serves 12.

Daffodil Sponge Cake

1 cup egg whites
1 teaspoon cream of tartar
½ teaspoon salt
1 teaspoon vanilla extract
1 cup sugar
1 cup sifted cake flour
4 egg yolks
Grated rind of ½ orange

Beat egg whites until frothy. Add cream of tartar, salt, and vanilla. Beat until whites begin to hold their shape. Gradually add sugar and beat until very stiff and glossy. Fold in flour gradually. Beat egg yolks until thick and lemon-colored. Divide batter and fold egg yolks and rind into one-half. Put by tablespoons into ungreased 9- or 10-inch tube pan, alternating yellow and white mixtures. Preheat oven to 300° F. Place cake in oven and bake for about one hour. Invert on rack to cool. Remove from pan. Frost with butter frosting.

DAFFODIL PIE

4 medium eggs, separated
6 tablespoons sugar
¼ teaspoon salt
¼ cup lemon juice (seeded but unstrained)
½ cup boiling water
4 tablespoons lemon flavored gelatine
1 tablespoon grated lemon rind
¼ teaspoon cream of tartar
6 tablespoons sugar
Whipped cream
1 cup well drained mandarin oranges
8 inch pie shell

Mix egg yolks, sugar, salt and lemon juice in a saucepan. Cook over very low heat or use a double boiler. Stir constantly until mixture thickens and coats a metal spoon. Remove from heat and set aside. Stir boiling water into gelatine to completely dissolve. Now with a rotary or electric beater, beat the thickened lemon mixture into gelatine. Add rind. Make a meringue of the egg whites, cream of tartar and remaining 6 tablespoons sugar. Carefully fold the egg-gelatine mixture into meringue. Pile filling into cooled pie shell and refrigerate. Serve with whipped cream and garnish with mandarin orange sections. Six generous servings.

Y-WY DAFFODIL DELITE

1 Stick Oleo (soft)
1 Cup Flour
½ Cup Chopped Nuts ..... mix together for bottom crust. Press into bottom of 9×9 cake pan. Bake 20 minutes at 375°F. Let cool.
8 oz. Soft Philadelphia Cream Cheese
1 Cup Powdered Sugar ..... beat until fluffy. Fold in ½ Medium-sized Cool Whip and put on crust as one layer.
As next layer; put on one can of "Thank You" brand Lemon Pie/Pudding Filling. Top with the rest of the Cool Whip.
Chill.
(Note: Can be made day before and will keep refrigerated several days.)

Next time you're wondering what to serve your daffodil (or other group), try one of the above recipes, all of which came from local society newsletters.

CORRECTION

The December *Journal* reported that Carncairn Daffodils had received a Silver Medal at the Liverpool International Garden Festival in 1984, whereas it was in fact a Gold Medal. Our congratulations to Kate and Robin Reade. The editor regrets the error.

DAFFODILS 1984-85

The RHS publication, *Daffodils 1984-85*, has at long last been received by the Executive Director who has mailed copies to those who ordered in advance. If you'd like a copy, please send $5.00 to our Executive Director, Leslie Anderson, who promises to send your copy by return mail!

Memorial Contributions

John Lea ..... Delia Bankhead
Phil Phillips ..... Delia Bankhead
Mary Elizabeth Blue ..... Mary Lou Gripshover

FREEMAN A. WEISS

Freeman A. Weiss, one of the founders of both WDS and ADS, and the first president of WDS, died January 27 at the age of 92. Dr. Weiss was a plant pathologist in the Department of Agriculture before his retirement in 1950, at which time he became curator of the American Type Culture Collection, "a repository of microorganisms and information relating to them" which served researchers worldwide. He was also a charter member and past president of the Potomac Rose Society, and was coauthor of the *Azalea Handbook* of the American Horticultural Society.

From 1950 to 1960 Dr. Weiss served both WDS and ADS in various capacities. His contributions on various phases of daffodil growing and enjoyment appeared frequently in daffodil society and other horticultural publications.

After 1960 Dr. Weiss divided his time between Charleston, South Carolina, and his farm in Minnesota. In South Carolina he influenced the planting of daffodils in Magnolia Gardens, and in Minnesota he promoted daffodil growing through the ADS North Central Test Garden at The Minnesota Landscape Arboretum.

ACCLIMATING BULBS

GERARD KNEHANS, *Ownesville, Missouri*

There have been several excellent articles on acclimatization in past issues of *The Daffodil Journal* in which various methods were detailed. After reading these, I finally gathered enough confidence to formulate a method suitable to my situation and try my hand at coaxing bulbs from Australia and New Zealand to get in tune with Northern Hemisphere seasons. The short term results have been very good and some Society members who may have had problems in the past may want to try to duplicate this in their gardens.

Back in the spring of 1983, I received five bulbs from an Australian grower. All five were treated with a bulb dust and planted in a border on the north side of my house. This site is at the base of the foundation to a heated basement. The combination of shade and basement wall keeps the ground as cool as possible in the summer and the heated basement moderates soil temperature in the winter. And, while the site is primarily shady, there is enough sunlight in the early morning and late evening when the daffodils are ripening to produce blooms for the following season.

The effect of this location, I believe, is to make the planting site as "season-neutral" as possible to help the bulbs adjust more readily to Northern Hemisphere seasons. Of the five bulbs planted late in February, 1983, four cultivars bloomed superbly this spring—Attica, Goola, Kindee, and Ultima. One of the bulbs—Attica—even bloomed last spring.

Only two of the five—Goola and Kindee—displayed any above ground growth the first summer. Both, however, began vigorous growth in late September and October and were mulched to prevent damage to the leaves. They resumed their growth last spring and the three other cultivars also displayed normal growth without any sign of stress or other problem.

Then, last spring, I planted seventeen bulbs from Australia and New Zealand in the same manner and in the same border. All but one showed top growth by summer and most began vigorous growth in the fall. Some were mulched, others were not. All appear to have made it through a rough winter without any problems, except one—Koromo—which is not doing very well at this point. The one cultivar not showing top growth last summer or fall—Dear Me—is up and growing nicely.

At this point, I might tell you that one of the 1984-planted bulbs, Jackson's 195/75, bloomed last summer. Another variety—Ra—displayed one very nice bloom this spring.

So far, the process I'm using seems to be doing quite well in acclimating down under bulbs. The weather, I believe, has been an important factor as well. Both the springs of 1983 and 1984 were much cooler than normal here. This helped the bulbs establish good roots for their growth cycle. In contrast, this spring has been much warmer than normal and I look with interest for the results of those down under bulbs planted this spring.

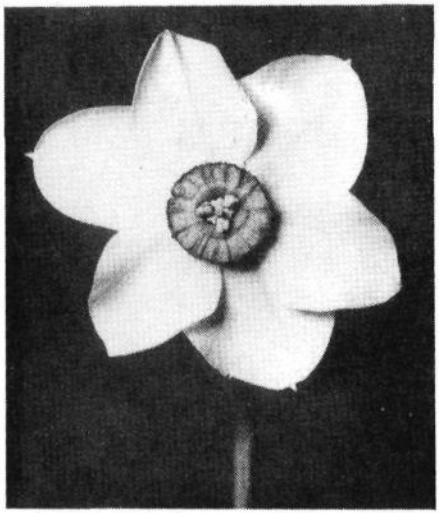
POETS - ENGLEHEART'S LEGACY TO HYBRIDIZERS

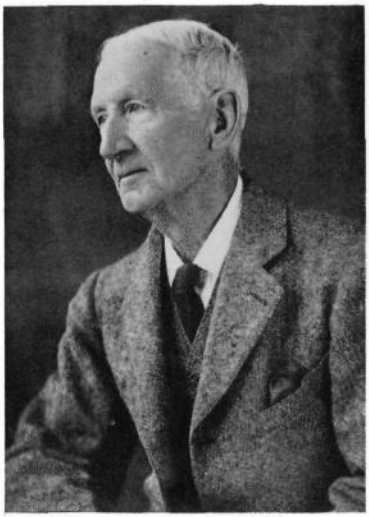
MEG YERGER, *Princess Anne, Maryland*

Fifty years ago the Reverend George Herbert Engleheart saw his daffodils for the last time. He died early in 1936. Now, half a century later, his poeticus cultivars are living on in the genes of poets being bred by hybridizers of today as well as in the many other types of daffodils that were created by crossing his poets with flowers from other divisions.

One of the last poets he himself registered was Ace of Diamonds in 1923. It was a tall flower of superb quality with a bloom that was not very large and with an almost entirely orange eye encircled by a thin red rim. The pollen tended to transmit that color when used in breeding as evidenced in Smyrna (James Hogg × Ace of Diamonds) raised by the Scottish Brodie of Brodie and registered by him in 1927. From the registration dates it is obvious that the Brodie must have had access to the pollen while Ace of Diamonds was still under number. Considering the length of time it takes a poet to bloom from seed and be evaluated it is probable that he made the cross by 1914 when he went off to serve in World War I. By the same token, Ace of Diamonds might have been around as a seedling for a few years before that. At any rate, there are indications that there was a large supply available by 1923 when Engleheart decided to part with his entire stock of bulbs. He lost so many plants from eelworm and bulb fly that he got rid of most of those left, continuing only to raise a few seedlings for his own fun.

Soon Ace of Diamonds appeared in trade exhibits of Donard Nurseries of Ireland with fine examples of it winning many first prizes. In a 1927 show report of the Midlands Daffodil Society it was referred to as the best red-eyed poet yet shown; it was not a large flower but was of





Left: Ace of Diamonds; right: Rev. George Engleheart (from the *RHS Daffodil Yearbook 1933*)

superlative quality with lustrous white perianth of perfect form and a brilliant orange-scarlet eye; very tall. Some of the stock was also in the hands of tradesman F.A. Secrett who acquired most of Engleheart's poet cultivars and seedlings which he named and introduced for him. These included Foresail, Huon, Ian Secrett, Mandarin, Narrabri, Papyrus, Red Rim, Sea-green, and Widewing. Mr. Secrett was particularly interested in bulbs for the cut flower trade and predicted a great future for these poets. By 1923, when Ace of Diamonds was registered, the prominent poet-raiser A.M. Wilson of Presteigne already had a dense crop of Ace of Diamonds flowers. There seems to be no doubt it had been around a long time under number! Once available it didn't take Guy Wilson long to use its pollen on Dactyl to create Sidelight, Thomas Hardy, and an almost-Royal-Flush, including with Ace of Diamonds his own King of Diamonds, Queen of Diamonds, and Knave of Diamonds. From the same cross Brodie raised Tannahill. Edwin Powell bred Catawba by using Ace of Diamonds pollen on Minuet.

Sixty years from time of registration, hybridizers of poeticus cultivars still rely on Ace of Diamonds through its progeny. Were it not for Smyrna there would not be the whole beautiful D-94 series from Mitsch—Angel Eyes, Bonbon, Bright Angel, Emerald, Suspense, and Tart. Nor would we have Tom Bloomer's Poet's Way and Poet's Wings. Helen Link's Phebe would not exist without Sidelight, nor her Sheilah without Tannahill and Thomas Hardy.

Another poet registered at the same time as Ace of Diamonds was the late-blooming, beautiful Dactyl. Guy Wilson was almost lyrical in describing it as such a perfect flower he couldn't imagine any improvement. It was a large flower of flawless symmetry and great substance with the perianth snow-white. The perfectly proportioned darkly rimmed eye had a good deal of green toward the center. It proved to be at least the equal of Ace of Diamonds in producing outstanding descendants appearing as it does in the ancestry of poets such as Avoca, Cantabile, Heart's Desire [Bisdee], Hexameter, Lacquer, Lights Out, Shanach, Tannahill, and their descendants. From just these two cultivars, registered fifty years ago, comes the material with which to work in producing poets of the future—a gift of great magnitude to today's hybridizer.

It was a little more than a hundred years ago that Engleheart began to raise daffodils, in the early 1880s, when he was thirty-one years old and Vicar of Chute Forest. That could be called the Appleshaw period because at the time he lived at Appleshaw Rectory, Andover. He knew of the experiments in cross-fertilization of daffodils by his relative William Herbert, Dean of Manchester Cathedral, who proved that many kinds of daffodils listed as species were actually natural hybrids. Dean Herbert wrote encouraging the humblest of gardeners or even flat-dwellers with an extra windowsill to try cross-fertilization. His particular interest in the species suggested a line of approach to Engleheart who began his own work by reproducing natural hybrids and garden hybrids from the species as Herbert had done. From that he progressed into all divisions,

particularly the poeticus. He agreed with Herbert's predictions for the many variations that could result from cross-breeding poeticus because so many of his own seedlings turned out to be distinctive in form and color from existing varieties.

In using the species poeticus then called *N. poeticus verus* of Linnaeus—now known as *N. poeticus hellenicus*—he found it rarely set seed unless pollinated by hand. He also found that every bloom receiving pollen from either *N. p.* Ornatus or *N. p. poetarum* would develop a pod. *Hellenicus* had died out for him before 1914; however its genes may be part of the heredity of some of his earlier poets which show characteristics of lateness, or of tallness relative to size of a very round small bloom.

The most successful early crosses involved *N.p.* Ornatus × *N. p. radiiflorus poetarum*, generally producing blooms with a suffusion of orange and red in the corona such as Dante, Herrick, Horace, Homer, and Virgil. *Poetarum* has a poor perianth with gappy segments but is the source of intense color and is early. Probably later crosses were made with pollen from its offspring to retain the color with hope for better form.

N. p. recurvus with its powerful scent is recorded as pollen parent in the cross that produced Petrarch # before 1896 and Spenser before 1901. *N. p. patellaris*, a late species with a large flattened eye, was also available but there seem to be no poets existing today with it as parent. Praecox, which is probably a natural hybrid instead of a species, was available and was used in crosses with other types of daffodil but there is evidence that it was never used in the breeding of poets until very recently.

In 1894, Engleheart described his series of experiments in hybridization in a paper read before The Royal Horticultural Society. He had succeeded in making exact duplications of the blooms resulting from William Herbert's own experiments on species crosses. He commented that from the great number of seedlings he had raised he was certain that on the whole the male is potent in determining form and color of the hybrid and that this is most marked in regard to color.

Soon after that conference Lady Ellen W. Willmott of Warley Place became a member of a syndicate which bought much of the Engleheart stock, many of which were named by her. Several of them won RHS First Class Certificates or Awards of Merit. P.D. Williams bought his first bulb of Horace from Engleheart in 1897. In that same year the first shipments of Engleheart bulbs went to Australia to Alister Clark of Victoria and to Sir Robert Heaton Rhodes of New Zealand. The poet Dante was in those shipments. It ultimately came into the stocks of Heathcote Bulb Nursery in Victoria, Australia, where Travers Morrison described it as a lovely cultivar, with broad, solid white perianth; cup citron, conspicuously edged rich madder red. At the present time a large naturalized planting exists in a private garden in Leongatha, Victoria, where the owner says it is surrounded by its own seedlings. It seems possible that it could become as great an influence in the development of modern poets as Ace of Diamonds has been.

The meeting of the Midland Daffodil Society after its first Annual Exhibition in 1899 at Birmingham, England, included a conference presided over by Mr. Engleheart, a member of the committee. There was a continuous rain from morning to evening which didn't dampen the enthusiasm of growers who came from all parts of the kingdom to discuss a variety of subjects, one of which was whether to have a separate class for the Poeticus Section. At that time poeticus were included in classes for Parvi-Coronati Daffodils which were saucer or flat crowned. Positive action was taken on the matter and later show schedules included classes for "True Poeticus."

Great features of the shows came to be the choice collections of Engleheart seedlings admired by all visitors. He was an artist at staging his trade exhibits but was as likely as not to tear down the exhibit at the end of the first day thus leaving the show with a blank space for the public to look at the second day. Of course he had very high standards of perfection and it might be he was not pleased with the exhibit or the amount of business it produced. His temperament seems to have been forgiven because the exhibits were always a great feature of the shows as long as he was able to continue with them.

Fellow trade exhibitors and principal growers in the early days included Messrs. Pope & Sons, Kings Norton; E.M. Crosfield, Wrexham; Miss Fanny Currey of Lismore, Ireland; Pearson and Sons of Lowdham; Messrs. M. Van Waveren & Sons of Holland; as well as Miss Willmott. Very likely they bought much of the stock that he wanted to clear out before a move to Dinton, Salisbury, in 1902.

In 1903 his Cassandra, Dante, Homer, and Laureate were entered in competitive classes at the Midland's Show. The lovely forms and colors of his seedlings were a center of attraction during the whole exhibition. Again the day was cold and wet causing Engleheart to comment that it was a good thing for his flowers to have their feet in water but strictly to be avoided for his own feet. No doubt the move to Dinton gave his flowers what they wanted because he spent the rest of his life there. Soon after the move, he displayed a new race of daffodils he had created having large, flattened, disc-like crowns. Nearly all of them resulted from poeticus pollen on Princess Mary which had an extended shallow crown with accordion pleated sides which appeared flat when pressed back. The fact that he had previously persuaded the committee to provide a separate true poeticus section in shows made it possible for the new race to be shown separately. In 1904 this type was introduced into the Parvi Coronati Division which already included Poeticus and Burbidgei. As a compliment this new addition was named Englehearti. In the present day most of these are in the RHS Classification under Division 3.

Availability from the trade resulted in more Engleheart poets being exhibited by more people, including amateurs, each year. Reports on the shows list poets winning awards as follows:

1906 - Cassandra, Chaucer, Epic, Herrick, Homer, Horace, Juliet, Virgil, White Elephant

1907 - the same list, plus Barcarolle, Ben Jonson, and Laureate

1908 - the same list, plus Alton Locke

1909 - the same list, plus Rhymster

Mr. Engleheart became president of the Midland Daffodil Society in 1910. Sonata, Matthew Arnold, and Kingsley appeared along with most of the formerly exhibited poets. Kingsley won a First Class Certificate as a poeticus of great size and beauty, with broad perianth segments of great substance and a large flat eye with a very wide red band. The same year the Herbert Chapman Poeticus Trophy was offered for a group of six distinct varieties of true poeticus that had not been in commerce more than four years, including one variety not yet in commerce. It was good merchandising for Cartwright and Goodwin, Ltd. of Kidderminster to make up its entire Chapman trophy entry from some of Engleheart's newest poets—Childe Harold, Coventry Patmore, Hildegarde, Matthew Arnold, Oliver Goldsmith, and Rudyard Kipling. Other competitors included in their collections Barcarolle, Euridice, Jack Point, Kingsley, Laura, and Sarchedon.

Many of the dates of shows in which Engleheart's poets appeared differ from the registration dates in the RHS Classified List. In that list, cultivars registered since 1927 show the years of registration. For older cultivars, the date they were thought to have been first mentioned was used but was not always exact. Likewise, the Annual Reports of the Midland Daffodil Society Shows only indicate the winning flowers and there is a possibility of earlier mention of them or others somewhere else. The matter of registration of daffodil names and their classification was of great concern, so a subcommittee of the RHS was directed to work out a system of listing. Mr. Engleheart served on that subcommittee which worked out a classification system which became effective in 1910. The Parvi-Coronati Division was dropped and the Englehearti Section went into the Leedsi Division while Poeticus became a division on its own, mostly due to Engleheart's insistence that be done.

Later Midland show reports record the showing of more and more new Engleheart poets each year.

1912 - Carol, Comus, Lullaby, Musidorus

1913 - Acme, Caesar, Dulcimer, George Herbert, Lycidas, Madrigal, Minerva, Minnie Price, Orange Ring, Sidney, Snow Shoe, Stephen Phillips, White Standard

The Herbert Chapman Poeticus Trophy proved to be a real stimulus to interest in growing and exhibiting poets. A list of the most popular prize winning flowers of all divisions in the Midlands Show of 1914 was published. Among them were thirty-seven poet cultivars that had been bred by Engleheart:

1914 - Acme, Barcarolle, Ben Jonson, Black Prince, Bret Harte, Bright Eye, Cassandra, Caesar, Comus, Dante, Dulcimer, Epic, Hafiz, Herrick, Hildegarde, Homer, Horace, Iambic, Illiad, Juliet, Kingsley, Laureate, Lullaby, Madrigal, Matthew Arnold, Millie Price, Minerva, Morwenstow, Orange Ring, Ovid, Raeburn, Rhymster, Sarchedon, Sonata, Stanza, Stephen Phillips, and Symphony.

Mr. Engleheart was as popular as a speaker as his poets were with daffodil enthusiasts. The light humor of his remarks at meetings invited audience interruptions such as shouts of "Hear, hear," or laughter, or clapping of hands. One after-dinner group enjoyed his description of the hybridizer once he became famous. For himself, a great hardship was that he did not have time to enjoy the visitors to his place who came on foot at breakfast time, in carriage loads at luncheon time, and in motors at dinner time. He gladly fed them breakfast, lunch, and dinner but he himself had to go to garden to make crosses. So, brushes of pollen went into his own mouth instead of the food his guests were enjoying and he got to his flowers as expeditiously as possible.

At a meeting when the weather was especially stormy, he delighted the audience with the Shakespearean quotation "...daffodils that come before the swallow dares and take the winds of March with beauty" which he thought not true in the eyes of daffodil fanciers because that year the winds of March did not deck the daffodils with beauty but knocked them all to smithereens.

In serious discussions he urged better staging. The use of better shaped containers was a matter that he brought before the committee often. He spoke of the ones in use as being a perfect abomination. Not getting any co-operation he eventually had made to order from his own design plain, clear, glass cylindrical vases for his personal use.

Discussions as to future development of the daffodil brought out his opinions that if the possible limits in size had not been reached at least the desirable limits had been. He thought ideals in regard to beauty of form should be revised because raisers were in a rut trying to make blooms round and symmetrical. He really thought that poets with freer petals were more beautiful than cultivars that looked too much like a cartwheel. He suggested a future for a long-petalled or a star-petalled flower. As for color, he noticed the public taste was getting away from strong colors and turning toward more delicate ones. One stand of his superfine flowers was particularly notable for color. Most interesting was one with a pale green center, a delicate colored flat eye, and a pinky-green colored band. many of the other flowers on the stand had green centers surrounded by a peculiar white with a curious suspicion of green in it. As it turned out, that was Engleheart's last stand of seedling poets at the Midland Show. World War I came along. Travel was difficult if not impossible; and although the Society put on shows in 1915 and 1916, Engleheart could not come and his usual exhibits were greatly missed. In a tribute to his work it was said, "At

his best he is apart from others in the wonderful variety and novelty of his creations. Some day he may be equalled but it will be long before he is surpassed." His own thoughts about his work were modest—he warned would-be daffodil breeders that they might have to cultivate hundreds of daffodils for thirty years to get two that were worthwhile, as the life of a daffodil raiser is eleven months of strenuous work resulting in one month of bitter disappointment.

There's always a chance, though, that fate may guide the hand of a person who wants to follow in Engleheart's footsteps to create something worthy from the treasures he left.

Lives of Great Men remind us
We can make our own lives sublime;
And departing, leave behind us
Footprints on the sands of time.
Henry Wadsworth Longfellow

THE ROUND ROBINS

FRANCES ARMSTRONG, *Covington, Virginia*

(from the Middle Atlantic Regional Newsletter, January, 1985)

A Round Robin is a group of letters written by and circulated among people with a common interest, in our case, daffodils or some aspect of daffodil growing. Each robin has a list of members, ideally eight to ten people. When a member receives a packet of letters, he removes his old letter, writes a new one and sends the whole package of letters on to the next person on the list. He is asked to do this within a week or two.

Each robin has a director whose duty it is to see that the robin moves along and who may suggest subjects for discussion. When each member sends the packet of letters on, he is asked to also send the director a card. So then, if another card is not forthcoming within a month or two, the director must communicate with the overdue one either to prod or to ascertain the cause of the delay. Sad to report, the robins have been lost in the mail on several occasions. In that case the director starts a new letter.

All the Robins fly by the Chairman of the Robins Committee, Otis Etheredge, of Saluda, South Carolina, usually just before they return to the director. He duplicates them, sometimes adds a note or a suggestion, and sends them on. If there is anything of general interest to the ADS in any Robin, he reports it in the *Journal.*

Otis informs me that currently we have only five robins. Number 1 is the Hybridizer's Robin which he describes as the most consistently active Robin. There have been a number of new members in the past year making a total of eighteen now. Instead of being divided into two Robins, it was given a new pattern of flight in the form of a figure 8. Dr. Bill Bender is the flight director. Both loops converge with him. He duplicates the letters and adds Loop 1 letters to the packet of Loop 2 letters and vice versa. In that way the letters circulate faster and no one misses the good information in the other loop. Dr. Bender tells me that they no longer call it a Robin but rather a Hummingbird. He says the hummingbird has many flight patterns and does a great deal of hybridizing whereas the robin does not do much. Several well known hybridizers belong to this group—Roberta Watrous, Dr. Throckmorton, George Morrill, Meg Yerger.

Number 2, the Men's Robin, has eight members. This one has no particular director and members discuss many aspects of horticulture besides daffodils. Number 3, the Poeticus Robin, has nine members, with Meg Yerger as director. Number 4, the Miniature Robin, with Sue Robinson as director has ten members. This Robin disappeared several years ago, was reorganized by Sue, and is now very active, with one member in New Zealand. Otis says we don't recruit members out of the country because of time, mailing expense, and possible loss; but if some ask, we try to accommodate them. I am a member of this robin along with Lucy Christian and Celeste Cox. Other members include Nancy Wilson and Mary Lou Gripshover in California, Rosalie Dilliard in Arkansas, Jim Wells in New Jersey, and Dave Karnstedt in Minnesota.

Number 5 is the Southeast General Robin. I have been a member of this robin for twenty-three years, and am currently serving as director. This surely must be one of the oldest robins and most of our members have been from the southeastern part of the United States, not necessarily the Southeast Region. We discuss a wide variety of daffodil subjects from cultivars that do well for us, problems of culture, storage problems, show winnings, most anything that pops into our heads. Lucy Christian was a member when I joined and shortly thereafter Bernice Ford and Sue Robinson joined. Marie Bozievich was a member until other ADS duties took too much of her time. Loyce McKenzie, Mississippi; Delia Bankhead, Virginia; Pat Bates, Tennessee; and one lone male member, Barry Nichols of Texas, now join us.

In return for the nuisance of writing a few letters a year, I have received much from the Round Robins in information and lasting friendships. There are several people in the United States interested in a Division 7 Robin. Otis writes that he did not receive enough response to his note in the *Journal*, so he has enlarged it to include some other divisions and the species. If interested contact Otis Etheredge. Loyce McKenzie has agreed to be director. Unless you absolutely detest writing letters, you will have many happy and informative moments when your robin comes flying around.

AMERICAN DAFFODIL SOCIETY, INC.
INCOME AND EXPENSE — YEAR ENDED DECEMBER 31,1984

INCOME:			
Dues paid in 1984			$13,720.78
Life Memberships Paid in 1984			1,800.00
Contributions			20.00
Memorial Gifts			350.00
Sale of Books, Supplies, etc.:	Income	Expenses	
R.H.S. Yearbooks	$ 382.50	$ 51.37	
A.H.S. Handbooks	117.00	—	
Daffodils to Show and Grow	686.00	—	
Handbook for Judges	501.50	—	
Old RHS and Out of Print Books	482.65	—	
A.D.S. Publications (incl. Barr)	252.25	—	
A.D.S. Membership Pins	173.00	—	
Data Bank Printouts and Binders	597.19	640.00	
Binders for Journals	107.00	—	
Show Entry Cards	610.00	1,004.22	
Daffodils in Ireland	20.00	—	
Brief Guide to Growing Daffodils	—	166.16	
Medals and Ribbons	322.50	504.91	
Registration Fees	59.50	—	
	$4,311.09	$2,366.66	1,944.43
Advertising in Journal			420.00
Judges and Refresher Fees			33.60
Slide Rentals			240.00
Interest Received			6,071.53
Convention Surplus (Portland)			3,445.82
TOTAL INCOME			$28,046.16
EXPENSES:			
Daffodil Journal - Printing and Mailing			$12,804.04
Deposit on Roster			200.00
Office Expense:			
Printing and Supplies		$ 838.07	
Postage and Telephone		1,270.06	
Executive Director and Clerical		5,800.00	
Social Security Tax, net		409.71	
Bank Service Charges		55.65	
Computer Lists and Labels		466.38	
Bookcase		193.60	9,033.47
Regional Vice-Presidents (Newsletters)			1,043.47
Secretary ($58.60) and Committees ($177.19)			235.79
Insurance and Bond			263.00
Grant from Educational and Research Fund			1,000.00
Advance to 1985 Convention Committee			1,000.00
Dues - National Council Of Garden Clubs			15.00
TOTAL EXPENSES			$25,594.77

AMERICAN DAFFODIL SOCIETY, INC.
BALANCE SHEET — DECEMBER 31, 1984

ASSETS:		
Cash in Bank - Bank of Mississippi		$ 5,878.32
Moneymart Assets - Prudential-Bache		2,577.07
C.D. First Federal S.&L., Phoenix, 12.75% due 10-6-86		20,000.00
C.D. First National Bank of Seattle, 11.5% due 12-8-86		5,000.00
C.D. Homestead S&L, MPRG, 13.15%, due 5-30-89		11,000.00
C.D. Bank of Mississippi, 9.00%, Due 5-1-85		3,500.00
Ford Motor Credit Corp., 8½% Bonds due 3-15-91		10,000.00
Accrued Interest not due on Ford Bonds		247.50
Inventory of Publications, etc.:		
R.H.S. Yearbooks (196)	$ 686.00	
Old RHS Yearbooks	200.00 Est.	
A.H.S. Handbooks (480)	480.00	
Handbook for Judges (400)	400.00	
A.D.S. Membership Pins (22)	97.20	
Show Entry Cards - large (62M)	790.50	
Show Entry Cards - min. (23M)	274.85	
Daffodils in Ireland (16)	16.00	
Peter Barr Books (21)	16.80	
Brief Guide to Growing Daffodils (250)	165.00	3,126.35
Inventory of Medals and Trophies:		
Medal Dies	15.00	
Gold and Silver Medals	359.50	
Larry Mains Silver Trays (min.) (6)	270.00	644.50
TOTAL ASSETS		$61,973.74
LIABILITIES:		
Dues Paid in Advance (in whole or in part)		$ 7,021.83
Life Memberships		19,050.00
Memorial Fund		825.00
Education and Research Fund:		
John Larus Memorial	$10,000.00	
Other Contributions	160.28	
Convention Surpluses Added	7,228.02	
Interest on Fund Assets ($20,000 CD)	9,046.72	
Less Grants '81, '82, '83, '84	-3,865.00	22,570.02
Reserved for Balance on Roster		711.02
Reserved for Balance due on Daffodils to Show and Grow		2,547.13
Net Worth		$ 9,248.74
TOTAL LIABILITIES		$61,973.74

Wells Knierim, Treasurer
March 17, 1985

AUDIT STATEMENT

The above income statement and balance sheet for the year 1984 were prepared using the cash receipts and disbursement records maintained by the Executive Director. The balances were verified with the bank statement and account statements of the financial institutions indicated. The inventory of publications is shown at cost except that no value is included for surplus ADS publications. In addition to the assets shown, the Society has a substantial library of books on daffodil culture, many of which are rare and valuable, and several colored slide collections. It also has a number of memorial silver trophies awarded at convention shows. The slides, books, and trophies were mostly contributed and no value is included.

Dues received in the current year, covering periods beyond the end of the year, were prorated and amounts covering such future periods are shown as a liability as are life memberships.

Receipts for dues and other income were verified with deposit slips, and disbursements were checked with suppliers' invoices and cancelled checks signed by the Treasurer and the Executive Director.

Based on this review, it is my opinion that this report presents an accurate statement of the financial condition of the Society and that the records are being maintained in a sound and orderly manner.

Jane A. Moore, Auditor

PERENNIAL COMPANIONS FOR DAFFODILS

DORRIS and LURA EMIG, *Columbus, Ohio*

(*from* Cods Corner, *October, 1984*)

Mixed perennial beds being "our thing," we intersperse daffodils with other plants.

The smaller cultivars of daffodils make good edging clumps, along with the miniature dwarf iris and the earlier blooming standard dwarf bearded iris which bloom with the midseason and late daffodils.

Chionodoxa, an early blooming bulb in shades of blue and lavender, are nice with the smaller early daffodils. The chionodoxa are only three inches high, but a clump makes a splash of color! Since most of the early daffodils are yellow, this seems a pleasing combination.

The *Helleborus Orientalis* will have been blooming when the daffodils start to bloom, but the flowers will usually be nice as the daffodils start. The foliage of the helleborus will remain attractive during the growing season.

In the shady areas, primula bloom along with daffodils. The color combinations are numerous, with so many colors being available in primula.

Brunnera macrophylla, with blue forget-me-not type flowers, make lovely combinations with daffodils. The blooms come before the large leaves develop. This plant takes a large space as the foliage lasts through the growing season.

The well-known grape hyacinths, in varying shades of blue, complement the late daffodils. The foliage of the grape hyacinth also disappears after blooming, leaving a space to be handled during the summer months. The grape hyacinths usually send up their green leaves in the fall, claiming their space again.

The bright yellow alyssum sets off the white daffodils, but yellow daffodils fade into the alyssum from a distance.

The creeping phlox (pinks, white, and lavender) make good companion plants for daffodil clumps. But, as the phlox spreads, the daffodils will not survive if covered. The phlox blooms better, however, if cut back after bloom. This will also leave spaces for the daffodils.

The old-fashioned *Vinca minor*, a ground cover with lavender blooms, will allow daffodils to grow through the foliage and is nice cover for "naturalizing" an area.

A dry, shady area will allow the ground cover, Sweet Woodruff, to grow. Daffodils will grow in this same area with some help to keep from becoming too dry. The white bloom is attractive but comes along later than the daffodil bloom.

Pulmonaria with pink and blue blooms grow well in shaded areas and will bloom along with the daffodils. Some of the late poeticus (Division 9) look well in this situation. The foliage of pulmonaria is attractive throughout the growing season.

Iberis sempervirens, an evergreen plant with white blooms, make attractive back-grounds for daffodils in color. Again, care must be taken to keep the iberis from smothering the daffodils.

The various sedums, while not blooming with the daffodils, are attractive foliage companions.

Arabis, white and pink, can be used for edging and in the rock garden. This provides nice contrast for the daffodil blooms.

The foliage of most of the plants mentioned provides contrast with the up-right foliage of the daffodil, as most of these plants have foliage that stays low, at least at the time the daffodils are in bloom, but spreads to cover the area.

Most of the spaces left by the daffodils while dormant can be filled with the small marigolds, providing color and weed control. Any other small annual without deep roots could be used for the same purpose.

The naming of particular cultivars of daffodils has been omitted. The same effect can be produced with a variety of different cultivars. The most pleasant combination is by trial and error, sometimes by serendipity. And, as always, we must depend on Mother Nature to provide the best growing season.

THE NAMES OF OUR DAFFODILS

GERTRUDE J. WISTER, *Swarthmore, Pennsylvania*

(*from* The Daffodil Bulletin, *February, 1964*)

Suppose you had to pick out new names for new cultivars of flowers each year. How would you proceed? What sort of names would you use? You would probably find choice difficult, for not only must the names be not already in use for the same kind of flower, but you would like the ones you chose to be suitable.

What have other breeders—and of course we mean daffodil breeders—used for names? Place names are easy hints to the name of breeders. The Brodie used Scottish names, of course, such as Elgin, Moray, Cromarty, and Loch Fyne. He also used place names from the Near East where he served during the first World War, such as Hebron, Varna, Pera, and Stamboul.

As for The Brodie himself, he was The Brodie of Brodie, and lived at Brodie Castle. Use of *The* in front of a name in Scotland indicates a highland chief or chieftain. Several flowers raised by The Brodie were introduced by Calvert, a Cornishman, and bear the Cornish place name Coverack.

Many Cornishmen used local place names. Names starting with Tre-, Pen-, and Pol- are apt to belong to cultivars named by a Williams, or by Alec Gray, or Favell. As for the names of saints, almost half of them were chosen by Cornishmen. St. Keverne, St. Ives, St. Agnes—those are Cornish place names, no doubt connected with old churches. Let us be thankful that A.M. Wilson, who lived in Wales, did not use any of the difficult Welsh names, but chose names like Content and Jalna.

We all know how many Irish place names are attached to the daffodils of Dunlop, Richardson, and Guy Wilson. The prefix Bally- indicates a small village; a slieve is a mountain; a lough, a lake, and pronounced *lock*. The name Ballyferis came to a daffodil by way of a race horse, for Richardson was fond of naming flowers after horses. Others are Mahmoud, Alycidon, and Tudor Minstrel. (I saw Tudor Minstrel this summer at a famous Kentucky stud farm, and a handsome fellow he is.)

Names of lighthouses were used by Richardson for his famous red cups. Tuskar Light and Fastnet are two; and I assume Rockall, that lonely rocky isle a third of the way from Ireland to Iceland, famous for its sea birds, is crowned by a light.

Other names, too, tell what a flower looks like. Everest, Nilkanta, Mount Hood, and Kanchenjunga have to be all white, and we expect Paricutin, Krakatoa, and Cotopaxi to be fiery. New Moon is aptly named, with its delicate circlet of color.

The gentle Rev. George Engleheart used Biblical names (Gaza, Berrsheba) which seems logical, but why did he name a yellow trumpet Agnostic? He used some names of poets for cultivars of poets—Horace, Dante, Rupert Brooke, and Caedmon—so natural a choice it is suprising he did not use more.

Alec Gray's Cobweb, Mustard Seed, and Peaseblossom are named for fairies in *A Midsummer Night's Dream*, but the fourth fairy, Moth, seems to have been neglected. Another of Gray's lovely daffodils, Sidhe, should be pronounced *Shee*, and is sometimes written that way. A shee is a fairy tribe, and the Irish word for fairy is sheehogue (sidheog). A banshee is a woman fairy.

What about some people whose names have been attached to daffodils? Rustom Pasha was a Turkish ambassador to the Court of St. James, but to me notable because of his interest in conserving a fine grove of cedars in Lebanon. He had it fenced to keep out voracious goats. The famous Lily Langtry has given two names to daffodils—Mrs. Langtry, and Lady de Bathe. Moira O'Neill—the Irish poetess, Diasy Schaffer—a famous Dutch lawyer, and Sacajawea—the young Indian woman who carried her baby with her as she served as interpreter for the Lewis and Clark expedition during twenty long months, are three others who, with the famous beauty, make a varied quartet. Other women, the wives of Dutch growers and bulb dealers in this country, seem only shadows of firm names, though members of the firms living today probably think of them as grandmothers. Mrs. Ernest H. Krelage, Mme. van Waveren, Mrs. Chester J. Hunt, and many others gave names to daffodils. Whiteley Gem came by its name in a queer way. It is named for a London department store.

E.C. Powell, one of the first American daffodil breeders, chose Indian names. Oconee, Nakota, and Cheyenne are among them. Grant Mitsch has chosen many names typical of the Pacific Northwest, of course, including Clackamas, Chinook, Bonneville, and Klamath.

But perhaps the pleasantest names of all are those with poetry and imagination about them. As I look down the slope below our house this colorful October day, I see at the edge of a woodland path hundreds of white and purple cups of colchicums. Five months from now I shall be watching for the swaying of March Breeze. In front of the house, graceful Dove Wings will be sending up its buds, and Fleetwing showing green near today's spears of autumn crocuses. Aircastle, Allurement, Moonmist—what names to dream of the winter through! Daydream, Lunar Rainbow, Gay Mood—that Grant Mitsch has a way with names, hasn't he?

Early Riser and Promptitude will help to ring the curtain up on the daffodil season. Lamplight, Lights Out, and Addio will ring it down.

And let me raise this last thought. How do you suppose Mr. Radcliff was feeling the day he decided to name a daffodil Aspirin?

THE AUSTRALIAN CONTRIBUTION

PETER RAMSAY, *Hamilton, New Zealand*

(from the Australian Daffodil Society Newsletter, *January, 1982)*

On reading the most recent Australian Newsletter I experienced a twinge of conscience. I recalled that I'd promised "Mac" McIlraith, who was a welcome visitor in our garden last spring, to write about Australian cultivars which have done well with me. I agreed to do this knowing that I'd enjoy looking up old records and reviewing some of the better flowers. This kind of exercise almost inevitably leads to the projector being dusted off and the assessment being carried on with the aid of colored slides. It's a good mid-winter time waster!

My acquaintance with Australian-raised cultivars stretches back to my earliest growing days. I remember my father raving over Ivo Fell's glorious color and plotting a variety of strategies to get the perianth white and to stop the cup burning. Then came Highfield Beauty, that milestone in the development of tazetta's, closely followed by those good small cups, Mrs. David Calvert, Marilyn, Polar Imp, and Calleen, all of which remain in my collection and take premier blooms from time to time.

My real acquaintance with Australian-raised flowers came with our shift from Wellington to Hamilton, and the purchase of our own land. Hitherto suppressed yellow fever gave way to an extremely virulent outbreak which remains despite the best efforts of virus, fly and nematode! In 1971, we visited our first national show as exhibitors; and not only did we meet the late Tim Jackson there, but we also saw some lovely cultivars of his raising exhibited by a prominent amateur, Blair Roddick. Blair quickly dispelled my view that importing was diffcult and only for the pros, and suggested that currency and customs presented few problems. So, after a delay in getting a catalog, I placed my first order with the Jacksons in 1974. My records show that I bought a bulb of Akala, Berit, Ristin, Yelmo, Lod, Anitra, Yves, and Kasia for the sum of $50.00. The return from these purchases was not immediate. For several years, while having great substance they always seemed to have a mitten which kept them off the show bench. Incidentally, this proves a theory of several top growers such as our Patron, Mavis Verry, that it is not until you 'make' a flower yourself that you are able to tell how that cultivar will do for you. The moral is—don't discard too soon as some take three to five years to settle into your unique and peculiar habits! By 1977, the Jackson purchases had settled and were beginning to form the backbone of my collection. That they were wise choices is shown by the number of times they appeared in medal-winning classes and achieved premier and best bloom honors. All of the original Jackson order are still grown with the exception of Yves and Yelmo which I reluctantly discarded with virus. In 1974 I also bought some other 'Aussies' from P & G Phillips. These included Banongill which gave me an immediate return with a best bloom (and little else since), Goldish, Golden, Lady Slim, Kai, White Ki, and Vixi. Of these Golden, Vixi, and Lady Slim still survive, although the latter is a very difficult customer. (Since writing these notes *Golden* took the reserve champion bloom at the National Show in Howick).

Since 1974, I've continued to build on the basic collection and now would have well over 100 Australian-raised. These are mostly from Jackson's, but with a fair sprinkling of Ross Glover's, the Fairbairn's, Tom Piper's, and Lindsay Dettman's. Having viewed daffodils in the Northern Hemisphere, and having a collection which is *too* extensive, I rank a lot of my Aussies in the very top drawer. The ones which seem to float to the surface with me most regularly are: Anitra, the best early white yet available, and rivalled only by White Star; in the past four years it had

given me seven premier blooms and three best blooms including the 1980 National Grand Champion (premier 1 W-W at Howick National yet again in 1981); Akala, a clear, consistent yellow which nicks rarely; Triton, a tidy 2 W-Y; Placid, an unusual and pretty yellow small cup which is better than anything else in this area; Calleen, an under-rated small cup; Dimity, at its best perfect and *looks* like the small cup which it is; Vahu, which vies with Dailmanach as the best ever pink; Immaculate, a quick settler and at the very top of a strong division—already a best bloom at the late show; Tia, pressing its parent, Dimity, and premier 3 Y-R at the national when grown by Graham Phillips last year; Polar Imp, an early 3 W-W which takes lots of premiers; Tiger Tim, a recent purchase which is a definite advance in its division and has already taken a premier bloom; Lynette Sholl, another recent buy which looks highly promising; Craig, an excellent golden trumpet; Flash Affair, which with N.Z. raised Moiki I rank as the two best 2 W-Ys in the world; Dear Me, smallish, but oh what color; Ida May, a delicious, new color break which will become a 'must' for variation in collections; Atro, another recent purchase which *looks to be the pick of the 2 Y-Rs to date*; Ristin, *gorgeous color, heavy substance*, a best bloom on its day; Marilyn, a lovely rimmed much-under-estimated small cup—it is virused with me but I'm growing it in isolation until I locate clean stock as I can't bring myself to part with it; Chaste, not quite up to premier standard but unique; Lod, an older one which is short-stemmed and flares its anthers but is still a valuable 1 W-Y; Juel, not highly colored, but consistent; Betrin, a bit narrow in the petals but gets premiers in a weak division; Cinel, a smallish flower but highly colored; Karen Lee, yet to settle, but looking good; Pink Silhouette, a charmer; Voda, a winner amongst the early small cups; Ziska, taking a long time to settle but will, I believe, be Akala's successor.

These are only a few of the many Australian cultivars which have given me great pleasure over the years. By the way, it's a pity that New Zealand cultivars are difficult to get into Australia because of your zealous agricultural regulations. Any grower worth his/her salt always grows new cultivars in strict isolation and rogues, burns, and sterilizes soil at the first sign of trouble. As "Mac" noted, my own pattern includes annual treatment of soil with methyl bromide; and while this *may be for the specialist, I believe that it pays dividends in terms of hygiene.* Combined with regular hot water treatment, a cold dip—a nematicide, Aldex and Formalin *and* vicious roguing, health and hygiene are looked after. If Australians were able to get the latest of O'More's 1 Y-Ys and 2 Y-Rs, Brogden's pinks, red cups, and 2 Y-Ys, Phillip's bicolors and small cups, and Bell's rimmed small cups and doubles, then I'm sure that Tension wouldn't be the only Kiwi premier listed in your results! In the meantime, it seems that we in New Zealand are getting the best of all worlds!

GERALD D. WALTZ

Gerald Downes Waltz, age 83, of Roanoke, Virginia, died in early March after a long bout with Parkinson's disease. For many years Mr. Waltz maintained a bulb and flower business in Salem, near Roanoke, where he carried many of the finest bulbs available from Ireland, England, Holland, and America. He was a charter member of the ADS and attended many of the early conventions.

ROSEWARNE EXPERIMENTAL HORTICULTURAL STATION

IVOR FOX, *England*

(from the Journal *of the Daffodil Society [Britain], February, 1983)*

The group of Yorkshire enthusiasts who made the long trip to the Cornish bulb fields also visited the Rosewarne Experimental Horticultural Station at Camborne on Saturday, 27th March.

Rosewarne E.H.S. is one of a chain of seven experimental centers maintained by the Agricultural Development and Advisory Service (ADAS), a support service to farmers and growers provided by the Ministry of Agriculture, Fisheries, & Food. The experimental centers are located in major areas of horticultural production and provide facilities for undertaking investigations on the crops of commercial importance in those regions.

The experimental station was established in 1952, and the estate covers 52 hectares on an exposed ridge about two miles from the sea. Besides daffodils and other ornamentals, major aspects of experimental work are concerned with winter and spring maturing vegetables.

We were received by Michael Pollock, Director, and Barbara Fry, who is internationally known for her research and breeding of daffodils. The program consisted of:—

— inspection of the cultivar trial beds
— a tour of the new seedling beds
— indoor research testing methods on "vase life"
— discussion on the breeding of commercial daffodils.

The main points of interest from each section were as follows.

TRIAL AND EXPERIMENTAL BEDS: The cultivar trial beds are a sight to behold. They consist of thirty beds each containing on average twenty cultivars and a minimum of twelve bulbs of each cultivar. So if my math is correct, 7,200 bulbs with two flowers per bulb and 80% in flower you can imagine the magnificent sight. There is also a bonus, although none is necessary, and that is the quality and size of the flowers. The amateur hybridizer of trumpets will wonder why he is bothering after seeing such tried and tested cultivars as Carrickbeg, Fortwilliam, Arctic Gold, Ristin, Kingscourt, and Viking grown to 5" across and perianths as smooth as baby's bottom. Is it the soil, climate, or knowledge? I believe it to be a combination of all three ingredients, as with any good cake!

The following cultivars were also up to first class exhibition standard:

Division 1—Royal Armour, Sterling, Bravoure, Karamudli, Rashee, Empress of Ireland.

Division 2—Border Chief, Ormeau, Revelry, Butterscotch, Falstaff, Pinza, Vulcan, Avenger, Festivity, Irish Minstrel, Wedding Bell, Daydream.

Division 3—Perimeter, Aircastle, Audubon, Merlin, Rob Roy, Silent Beauty, Woodland Prince.

Division 4—Ascot, Hawaii, Takoradi, Enterprise.

Division 7 & 8—Portchapel, Geranium, St. Agnes, Golden Dawn.

Division 9—Cantabile, Hexameter, Perdita, Dactyl.

Division 11—Abel Tasman, Cassata, Mistral.

NEW SEEDLING BEDS: The breeding program at Rosewarne is designed to produce new, improved, commercial cultivars such as Tamara. The main objective is to produce a successful line of new daffodils which a) flower earlier, b) have a longer vase life, c) can be used for bulb production throughout the U. K., d) provide income and export opportunities for British growers.

As a result of these objectives, the majority of ten years plus seedlings are not up to show standard. I believe that this is due to the fact that a large number are discarded at an early stage due to flowering time. As an exhibitor this is a great waste and I only hope that some local commercial growers are given the opportunity of purchasing these small stocks.

In the new beds, which contained about 10,000 crosses, there were some very promising exhibition seedlings. The best appeared to be 1 Y-Ys and 2 Y-Ys, not a lot of white perianths on view. I presume this is due to the housewife's traditional demand for yellow daffodils.

I look forward with great interest to seeing Rosewarne-raised cultivars in the shops as cut flowers and winning first prizes at Solihull before the end of the 80s.

RESEARCH TESTING OF VASE LIFE: It is fascinating to be able to see the laboratory conditions under which all new cultivars are tested for vase life.

Since growers changed to marketing daffodils in bud, the popularity of the flower has increased considerably, since buds travel better, last longer and give the buyer the pleasure of watching them develop in the home. In the past, when buying fully open flowers, one could never be sure how long they would last.

We now expect a minimum vase life of seven days at a temperature of 15.6°C (60°F); and if kept in a cool room, 10-14 days is possible. Incidentally, the juice from cut daffodil stalks will prevent other cut flowers from taking up water, so it is best to keep them on their own.

The testing of new cultivars is carried out in sealed rooms with a constant air temperature and a variety of air mixtures. The effects of tobacco smoke are even taken into consideration. It seems no person or plant is safe from the weed! The results are carefully monitored and are available to the trade and commercial grower.

The Station's efforts to raise new commercial daffodils reached an important state with the sale of the stock of TAMARA and the program, which is hopefully a blueprint for a successful new line, is set out in this summary of their fact sheet.

The aim was to use Rijnveld's Early Sensation and improve it by crossing with tall, good quality cultivars.

1964. One of many crosses was Trenance (seed) × Rijnveld's Early Sensation (pollen) and the seed was sown as soon as ripe under code 64/48.

1965-6-7. For the first three seasons the young plants remained in the seedbed.

1968. Seedlings now in field beds and a few flowered.

1969. Most of the seedlings now flowering and the really good plants were marked during regular inspections. One selection, 64/48/1 was early flowering and vigorous and was lifted and planted separately for detailed annual examination.

1970-75. Bulbs divided naturally and careful records kept to check performance and health.

1975-79. Stock had increased sufficiently to allow division into two groups with each group hot water treated in alternate years to control pests and diseases.

Full annual records are kept of flowering date, stem and leaf length, vase life, flower size, yield, bulb increase, forcing quality and resistance to disease. In addition it was compared each year with the standard cultivar, Golden Harvest, and on all counts it performed well, consistently flowering before Golden Harvest, in most seasons 3-4 weeks earlier. During this period stocks were increased by twin-scaling and micropropagation to advance the date of release to commerce.

1980. Stock inspected by growers' panel for specialist opinion, and after inspection over two seasons, 64/48/1 was granted plant breeders rights to give any future owner the right to exclusive propagation and sale.
1981. The name TAMARA was approved and registered and growers' panel again inspected stock to agree commercial potential. The National Seed Development Organization invited commercial growers and organizations in UK to tender for outright purchase of the stock of 1,500 bulbs of TAMARA. The Cornwall Area Bulb Growers Association successfully bid for the stock which is now growing on several farms and propagation continues until a considerable acreage is available for early flower production.

In final summary, I strongly recommend all members to attend a Rosewarne Public Open Day which is usually the last Saturday in March. An interesting day is guaranteed, with such horticultural expertise available for questions that you are sure to broaden your thinking base and knowledge. For confirmation of arrangements, contact The Director, Rosewarne E.H.S. Camborne, Cornwall.

(from *The Mayflower*, September, 1897)

THE DAFFODIL SOCIETY

was established in Britain in 1898 to cater for the needs of all daffodil enthusiasts and now has members in all the countries where daffodils are grown seriously.

The Society issues two publications each year to all members and welcomes contributions from all growers on the complete range of topics.

Minimum membership subscription is £3.00 per annum; overseas members £8.00 for three years (optional); payment by STERLING International Money Order please to:

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MICROCLIMATES OR "WHY ARE MY THREES SO LATE?"

DONNA DIETSCH, *Columbus, Ohio*

(*from* Cods Corner, *July 1984*)

Once you get into growing daffodils as a hobby, you notice that even though you have some of the same cultivars that other members do, they always seem to have them for the show while yours are still in the tight bud stage. Depressing, isn't it? You need one more division to complete a collection and nothing is up. Sometimes something is up, but it is either a "scruffy" cultivar or it has this very large nick in the petal! The week after the show, or often when you get home the day of the show, there it is, in full bloom...the beautiful, expensive one that you bought, knowing that if you showed it, it would win a blue ribbon...and too late for the show! Of course, you can always go to one of the shows in some of the cities to the north of us. However, last year I came back from Akron to find two cultivars that I had wanted to show in full bloom. Akron, naturally, is the last show in Ohio. So what can you do to encourage earlier blooming?

"Microclimates" is the term that is used to describe a section of an area that is either colder or warmer than the surrounding area. If your yard is in a depression between higher ground the cold air will remain in your yard longer than the surrounding area, since cold air is heavier than warm. It will also freeze earlier in the fall. Conversely, if your yard is on top of a rise and the surrounding area is lower, you will experience warmer conditions, earlier bloom in the spring and later frosts. This is a rule of thumb but a yard can contain several microclimates within itself.

I can use my own yard as an example since it contains several microclimates. My house faces southeast. The front of the house is always warmer than the back by virtue of its southern exposure. The bed which is close to the front is even warmer since it is surrounded on three sides by sidewalk which retains the heat of the sun. It also receives warmth from the walls of the house, especially since my house is a bi-level. This warm bed is always the first to bloom, and in there are planted the Division 3s (short cupped) and other late bloomers. The bed immediately in front of the walk is also early and I can even get some poeticus to bloom for our show here in Columbus. On the northeast side of the house is another warmer bed. It is close to the side of the house and benefits from the warmth of the walls.

The back yard is another story altogether. Facing northwest, it is on the top of a hill and the slope is about forty feet down to the bottom. A warm spot, you say? Nope, because directly behind the slope is Big Walnut Creek and behind that, about a half mile of very low land. The wind picks up momentum over the plain, absorbs the cold from the creek and brings it all up to my yard. Since the prevailing winds here in Columbus are

usually from the southwest, my backyard gets it most of the time. The result is that the backyard is usually a week behind the front.

All of this can be used to my advantage, however. Late bloomers can be planted in front to encourage earlier bloom and early bloomers in back for later bloom. Some can be planted in both spots so that the same cultivar will be available for early or late shows.

There are other methods that can be used to produce microclimates in a yard where none exist naturally. Raising the beds will cause the soil to warm up faster in the spring and using loose soil will make it warm up even faster yet. Windbreaks can be used effectively to produce microclimates. A tall stockade fence will hold in the warmth of the sun to warm the soil faster. Tall evergreen hedges will produce the same effect. However, planting close to tall evergreens or fences will retard bloom if the planting is done on the shady side of the barrier. Remember not to plant too close to shrubs, however, so that your bulbs will not have to compete with the shrubs for water and nutrients. Planting on the south side of a large rock or a solid fence will also hasten bloom on bulbs planted there. I have heard of people who use the black plastic mulch on the soil around the clumps to encourage bloom and newspaper to retard it. (Black absorbs heat and white reflects it.) If all else fails, and you need a flower in a few days and it looks like a week or more until bloom, I have read of people who water the clump with warm water to warm up the surrounding soil. I would think that you would not want to use water much over 100°, though.

Check your microclimates and use some of the suggestions and it's your turn to write an article next.

DOUBLE DAFFODILS

HAROLD CROSS, *President, Tasmanian Daffodil Council*

(Adapted from his presentation to Springworld '84)

In the preface to his booklet, Peter Barr referred to a publication issued in Antwerp in 1576 by Clusius. Its title, *Rariorum Stirpium Historiae*, translates into English as Story of Rare Stocks. Its importance for our purpose is that it apparently contains a clearly identifiable woodcut of the double known as "Double Roman."

After Clusius, the next major publication on daffodils appears to have been a folio published in England in 1629 by John Parkinson and entitled *Paradisus Terrestris*. This folio, An Earthly Paradise, describes ninety-six daffodils. Of one of these it is recorded that the bulbs first imported into England were owned by a Fleming named Van Sion. The story goes that he first flowered it in 1620 and before his death gave the bulbs to a George

Wilmer so that some called it Wilmer's Double Daffodil. Then early in the nineteenth century Haworth gave it yet another name of Telamonius Plenus.

Barr says that Parkinson described three forms of double poeticus. It seems probable that one of these is the one called Flore Pleno or Albus Plenus Odoratus. As late as 1966, George Lee described this one as "desirable but it shares with many doubles a penchant for blind flower buds."

Two other interesting doubles with a long history both have the name Queen Anne, but the names refer to two different daffodils and two different queens. One, named after Queen Anne of Austria, appeared in 1601, and apparently is still available under the titles of capax plenus or Eystettensis. The other, named after Queen Anne of England, disappeared for a long time and was apparently rediscovered earlier this century in a Cornish garden named Pencrebar—the name by which it is commonly known today.

There are also quite a number of other doubles of varying though generally poor quality which go under the surname of Phoenix with a whole range of given names such as yellow, sulphur, orange, etc. As far as I know, nobody seems quite sure where they came from; and some had quite picturesque alternative titles. In some places I know of in Tasmania, they can be found growing in paddocks with no other sign nearby of what was most probably once somebody's home.

On page 25 of his booklet Barr wrote, "Nearly all our double varieties of today were known to and figured by Parkinson in 1629." Thus these doubles had flourished in English gardens for over two and a half centuries when in 1884 the Royal Horticultural Society set up a committee to revise the classification of daffodils.

This committee adopted a classification first put forward by its chairman, J.G. Baker, in 1869. Baker was then head of the Kew Herbarium, and he grouped daffodils into three classes depending—as do our present Divisions, 1, 2 and, 3—on the length of the cup. He added a fourth division called "Monstrosities" and sub-titled "Daffodils With Double Flowers." To some extent, doubles have suffered from that unfortunate title of "Monstrosities" ever since. Indeed, some more modern writers have been little, if any, more generous. On page 116 of his book, *The Daffodil* Mr. Michael Jefferson-Brown wrote, "I feel that the smaller double daffodils have less of the affectation and vulgar pomposity that is a blatant characteristic of many double daffodils." Now human beings may indeed be guilty of "affectation and vulgar pomposity," but I suggest to you that our double daffodils could well do without such anthropomorphic characteristics being attributed to them in florid prose.

Within the last century, the first person I know of to have persevered in attempts to breed double daffodils was William Copeland. Seven of his doubles are registered. The first of these—Royal Sovereign—was registered in 1908 and the last—Mrs. William Copeland—was registered in 1930.

Unfortunately, there does not appear to be any record of the breeding of five of them. But at least four—Feu de Joie, Irene Copeland, Mary Copeland, and Mrs. W. Copeland—are still available in Tasmania today.

Permit me to digress for a few moments to bring you some statistics taken from a print-out of the *Daffodil Data Bank* up to the end of 1979. We see that more doubles were registered in the decade 1970-1979 than in the whole sixty years from 1900-1959.

Of all the doubles registered in the first eighty years of this century, more than one quarter were raised by the Richardsons and nearly another quarter were raised by Tasmanians. Of those where the seedparent was recorded, fifty-two, or nearly one-fifth, had Falaise as seedparent and another twenty-nine had Gay Time as seedparent. So the genetic bank for breeding doubles is much more limited than it is for Division 1, 2, and 3 flowers. In many cases it is what in human beings is called incest but in plants is called "inbreeding" if it is unsuccessful and "line-breeding" when it succeeds.

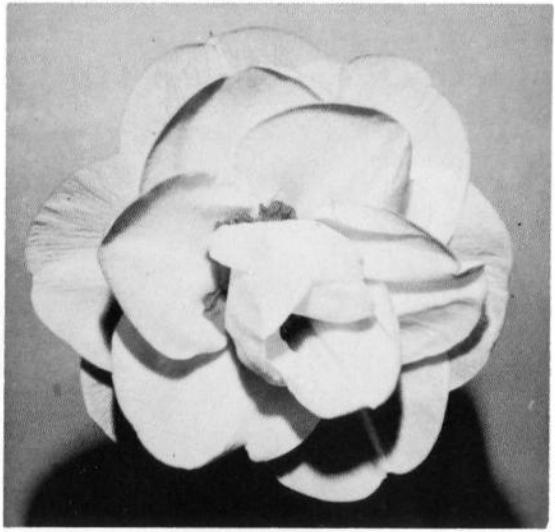
Before I leave the Data Bank statistics, here is one very curious fact that emerged from my analysis. The Data Bank records some twenty-nine registered doubles as being sports, that is, genetic mutations of existing cultivars. Not all of these are mules; some have viable pollen and at least one named Cheerfulness, a sport of a Division 8 cultivar named Elvira, gave rise to two more sports. A certain sameness took my attention and I found that no less than twenty-six out of the twenty-nine sports are recorded as being raised by people with Dutch surnames. Such a high proportion is incredible. Surely it is not only people with Dutch surnames who recognize sports and their potential value! I offer no suggested solution but it is an intriguing situation.

Of William Copeland's doubles, the one that is most important to us is Mary Copeland because it is the seedparent of Richardson's Falaise and thus one of the ancestors of very many of our modern daffodils. The breeding of both these flowers as recorded in the Data Bank is quite odd. Mary Copeland is shown with a poet as seedparent and Eggs and Bacon as pollen parent. That is, three quarters of Falaise parentage is poet and the other quarter is Eggs and Bacon. You certainly get some odd family trees in the daffodil world.

With Falaise, the Richardsons move into the field of breeding doubles and dominate that section for over thirty years. Falaise proved to be fertile and gave rise to a whole host of doubles that were a big advance on other doubles. In 1952 Double Event and Gaytime were registered. The fourth—and in my opinion one of the outstanding ones—was Acropolis which come along in 1955. In the twenty years from 1961-1980, there was no year when a Richardson double was not registered. In 1962 there were no fewer than eight, and in 1975 no fewer than seven of these Richardson doubles. Altogether there were three or more Richardson doubles registered in each of eleven years.

In an article in the American Daffodil Society *Journal* for June, 1983, Dr. David Willis reports on his examination of the Richardson records. He states that the cross that produced Falaise "was Mary Copeland (selfed) and produced one pod containing eight seeds which were sown on 11 July 1929, giving rise to six seedlings. In 1935 the stock consisted of one

double-nosed bulb plus one offset and it was described as 'best double, very late.' The name Falaise apparently was not applied until 1944 when the stock totalled 105 bulbs of various sizes." While not advocating so long a wait as that before naming, it is preferable to the practice adopted by some of bestowing a name when the first flower happens to be good.



GRIPSHOVER

Acropolis

In response to my queries, Dr. Willis wrote, inter alia, "The plant of Mary Copeland concerned in the production of Falaise was not growing in his beds but rather in his garden, so it is unlikely to have been subject to deliberate fertilization attempts. Indeed Richardson's recorded surprise at seeing the developing seed pod on the plant would tend to confirm this view. The indication of a poeticus daffodil as the male parent in the ADS computer print-out arose from the observation by Richardson of a poeticus scent in Falaise, and as this type of daffodil was growing close by he assumed a poeticus to have supplied the pollen."

Now what do we seek in doubles? I have been talking for some time now about doubles and I hope you have understood what I have been talking about. But what exactly do we mean by "double?" The Royal Horticultural Society classification is, as are quite a number of its daffodil classifications, accurate and completely useless. It does not even aspire to the status of a tautology. It says "Double Narcissi of Garden Origin. Distinguishing character—double flowers." Any primary school child knows that you have not classified something in a meaningful way when all you say about it is that a double daffodil has a double flower. It may be more helpful to define a double daffodil as a daffodil whose flower has layers of perianth segments (usually called "petals") with numerous smaller segments (usually called "petaloids") taking the place of the usual cup or corona. Such a definition rules out what I would call a semi-double, which has a standard perianth and a distinct cup full of petaloids. These flowers can be attractive and florists appreciate the novelty value of them, but they are not worth the serious attention of the daffodil breeder if he or she has much better material with which to work.

For the rest, we want the same things as we do with Divisions 1, 2, and 3—the clean color, good pose, strong stem, plenty of substance, and so on. However, two matters are of especial concern. One of these is the

stem, which needs to be much stronger than one that has lighter flowers to bear. A full double flower is much heavier than most, yet this too deserves to be held proudly aloft in all normal weather conditions. After all, a daffodil is not nearly as much use if it wins on the showbench but fails the acid test of adequate performance in a normal suburban garden.

Closely allied to this is the importance of the neck of the flower. The friend who set me firmly on the road to becoming a slave to Lady Narcissus told me, "First view the flower from the back; if it's not worth looking at from the back it is most unlikely to be worth looking at. Then look at the side and only if that passes, too, is it likely that the front will be worth inspection." That is not an infallible recipe but does provide sound guidelines. Be careful with the double that has virtually no neck at all because a heavy head is much more likely to snap off if the neck is excessively short.

Now let us turn to the actual mechanics of breeding double daffodils. The process, of course, is exactly the same as it is for all other divisions. That is, pollen from a flower has to be placed on a stigma—usually the stigma of a different flower. But with doubles you have three possible combinations. You can put pollen from a double onto the stigma of a double. You can put pollen from a double onto the stigma of a single flower. You can put pollen from a single flower onto the stigma of double.

With pollen from a double onto the stigma of a double you will get almost entirely doubles. With the other two possibilities only the passage of five or six years will tell what you will get. I have had some such crosses where the majority of seedlings turned out to be single flowers and others where the great majority, up to about ninety percent, were double. One such cross was Camelot crossed by a seedling that came from Kingscourt by Fiji. Thus three quarters of the immediate parentage was single flower, and yet some ninety percent of the seedlings were double. That cross proved to be one of the most productive crosses I have made.

The task is further complicated by the fact that some doubles never have stigma or pollen and so are useless for breeding. Such a flower is Golden Ducat. Some doubles have a stigma only occasionally. Some doubles have pollen only occasionally, and sometimes when they have pollen it is not immediately obvious. Let us examine some of these possibilities.

The first of these is of a double with normal stigma and normal anthers carried on normal filaments. When such you get, be thankful and do not waste the opportunity it presents. Next you may get a flower with a normal stigma but no sign of pollen anywhere. Again, you can use it for breeding.

However, all that glistens is not gold as the Prince of Morocco read from the Scroll in the casket he had chosen in *The Merchant of Venice*. The presence of a stigma does not, in my experience, always denote breeding potential. Look carefully at the stigma. Sometimes you will find that the style and stigma have three distinct circular sections, and in some flowers these three sections may be of different lengths. I do not know of seed developing as a result of the pollination of such stigma.

Then we sometimes have a double with no stigma but where pollen is present. This may take one of three forms. First we may find a normal anther on the usual filament but no stigma present. Then you may find what is obviously an anther but when you look carefully you may see it not on filament but fused to the edge of a petal. How it manages to develop on the edge of a petal I have no idea, but it does. Sometimes there may be no pollen visible on inspection of the flower. It is time consuming and often completely fruitless to search, but if I particularly want to use pollen from such a flower I will carefully tear the flower apart petal by petal—looking for pollen. I can give you no percentage of probability because at that time of the year I am far too busy to keep such records. But it does happen. Two of the best pink doubles I have came from a flower given to me by the late Tim Jackson. I remember well that Tim laughed when at a show in Launceston he handed over a flower labelled 192/69 because no pollen was apparent and he knew quite well what I would do with it. But my search was rewarded by finding the pollen hidden away, and two good pink doubles of mine have 192/69 as pollen parent.

For some people the complexity of a double daffodil makes for problems in judging or selecting them. so let us consider where each flower falls short of what we seek. Because of their complexity, doubles offer more scope for faults than single flowers; and the flowers I have raised have some defects. After all, I am aiming at an ideal which I trust will never be realized bacause if it is realized I will have nowhere to go. You know, I think St. Peter may well find daffodil breeders a cantankerous lot to get along with. Fortunately, I think Lucifer will want us even less. I certainly hope so as I prefer to do my daffodil breeding in a cool climate.

Let us consider a few common faults. Petals may be irregular and twisted, not spaced evenly throughout the flower. Petals may be uneven in size, and some will open fairly flat while the others remain folded. As in single flowers, torn petals are not acceptable; and, if possible, when a flower has a tendency to tear petals frequently, that fact should be considered seriously in any breeding program. The outer layer of petals may be somewhat hooded—that is, not in the same plane as the stem. There may be too few-or too many-petals, or some may be incurved while others are flat. As with other flowers, we look for good substance, color, good contrast and so on.

I hope I have convinced you, if, indeed you needed convincing, that modern double daffodils are not monstrosities but worthy of the opening lines of Keats's poem, "Endymion," which, as you know, read

> A thing of beauty is a joy for ever:
> Its loveliness increases; it will never
> Pass into nothingness; but still will keep
> A bower quiet for us, and a sleep
> Full of sweet dreams, and health, and quiet breathing.

May your double daffodils do so for you.

HERE AND THERE

Our poet promoter of Princess Anne, Maryland, Meg Yerger, has now won new recognition as a flower arranger. At the March 26 annual meeting of The Federated Garden Clubs of Maryland, she was given the Mary F. Fitzpatrick Medal in a competition for distinguised flower arranger of the year. Her arrangement was called "Pretty Enough to Eat" and included tansy, collard greens, day lilies, grapes, and Anjou pears arranged in an s-curve in a black iron container. A color picture of the design was one of 54 selected for publication in the *1986 Vision of Beauty Calendar*, published annually by The National Council of State Garden Clubs.

From Secretary Marilynn Howe comes word that Brian Duncan won the Engleheart Cup in London, with Tom Bloomer in second place. Tom Bloomer, known to all for his White Star, Silent Valley and others, was awarded the prestigious Peter Barr Cup by the RHS for his work with daffodils.

The January, 1985, issue of *Garden Life*, a Japanese magazine, contains a six-page article—complete with beautiful color photos—of the Springworld '84 convention. The article and photos are the work of our Dr. Shuichi Hirao. It's beautifully done, and should do much to spread the "yellow fever" in Japan.

Sometimes we are too quick to say a flower is misnamed. The same cultivar may look very different depending upon its stage of development. In the Cleveland show this year [1984] there were two collections of five cyclamineus both containing Snoopie 6 W-GPP. One had a very straight cup and the other was more goblet-shaped. Mine was the one that was straight and it was pointed out to me that maybe it was not correct since Snoopie should have a goblet-shaped cup. A few days later, I checked my clump and they were no longer straight. The one I had used in the show was not as mature as the one in the other collection. You may say, well, maybe you made a mistake, but I do not have very many pink 6s.....Foundling, Little Princess and who could confuse them with Snoopie?

There are many other cultivars that change as they mature not only in form, but in color, as the reverse bicolors and pink and white cupped flowers. Maybe we should give the exhibitor the benefit of the doubt unless we are really, really sure.

Naomi Liggett

THE 1984-85 SEASON. AN INTERIM REPORT.

JAMES S. WELLS, *Redbank, New Jersey*
Photos by the Author

On this last day of January, 1985, my daffodil season is about half over. All the early bulbocodiums are finished as are some of the jonquils, while the triandrus, later jonquils and Ajax types are just about to start. But the early group has produced a few items of interest which are worth recording, in both nomenclature and culture.

I have purchased four different lots of the so-called Nylon, but they have all proved to be slightly different. It has been clear that what is being grown under this name is a grex and not a clone; and with this in mind, I wrote to John Blanchard asking him if he might possibly have a bulb of the original form. In due time he replied that there is no true Nylon, and that it is indeed a grex. It seems that when these early crosses were made by his father, some of the outstanding bulbs were selected and named. These became Taffeta, Tiffany, and Tarlatan. Others remained which were growing as individuals, each under number. The whole lot was sent to Alec Gray for growing on and distribution; and when the group under numbers flowered, Mr. Gray decided that they were all so similar, and really very good, that he grouped them together and gave them the collective name of Nylon. This clearly can account for the minor, but clear, differences I see between bulbs from England, America, and Australia. So what do we do now? One of the best should no doubt be selected, given the name Nylon and propagated. The rest will just be planted out to take pot luck. With this information, I believe that the bulb I have been growing as a form of *romieuxii* is one of this Nylon group. A few of my friends who may have received this bulb from me under the name *romieuxii* (Avon form) sould now consider it one of the Nylon group. But it is such a good bulb that I may eventually select this as my form of Nylon, but this needs a little more time.

The second item of interest is that I find I have two distinct forms of *N. cantabricus petunioides*. I have established by correspondence with John Blanchard that one lot is the original form selected by his father, and in a number of finer points it is clearly the better of the two. This original form has thin prostrate leaves which are dark green. The flowers are of the typical petunia form with the corona spread quite flat to a width of 1¾ inches. The edges are frilled, the color a crisp clear white, and the texture excellent. The second form differs in only minor points yet is clearly a different bulb. The foliage is also thin and prostrate, but distinctly lighter green. There is a clear difference. The flower is of the same form, corona

N. cantabricus petunioides (original form)

spread flat with a wavy edge, but it is not quite so large, being about 1½ inches across. It also does not seem to flower so heavily as the first type. Both flowers are beautiful, but the original is clearly better. John Blanchard suggests that the second may be a seedling raised from the original selfed.

Newly received bulbs of *N. b. graellsii* did not flower, but bulbs of the Award of Merit form of *N. romieuxii mesatlanticus* did. They are good, but not in any way different from the standard form which I have. These could be incorporated without difficulty which suggests that what I had was a good form to begin with. *N. b. pallidus* has bloomed and in the three bulbs received there were two forms. Both have pale yellow flowers—which might suggest that they might be forms of *citrinus*—but one had a shallow rounded cup as a corona, while the other two had deeper, more trumpet-shaped coronas typical of *nivalis*, but larger. These will be separated and grown on for some time to see if they do differ from other forms already in cultivation.

Some three years ago I "collected" a full pan of small bulbs of *N. requienii* (*juncifolius*) from the RHS Gardens at Wisley. Last year I had one flower which seemed to indicate that this was indeed the true bulb, but this year I had a fine pan in full bloom which was a pleasure to see. There is no doubt that what I have coincides with descriptions and illustrations in earlier RHS journals and therefore I believe I am now growing the true bulb. (I would be glad to exchange some with anyone who has something of interest to offer.) *N. j. henriquesii* is just coming into bloom and I appear to have two different stocks of this. The first and largest lot have all come

N. requienii (juncifolius)

from John Blanchard. When sorting these for planting last August I separated bulbs which were round or long. There appears to be no difference in these now, and I have to assume that the difference in bulb shape was due to conditions in the pans rather than anything else. But another pan which has developed from a bulb obtained from Brent Heath some years ago is not the same. This bulb is flowering at the same time; but the foliage and flower stems are more sturdy, slightly taller, and the flowers, while exactly similar in general form, are slightly larger. I really do not know where I am here and shall have to check back to both sources to compare, which will take another year or two.

Another item of interest. Some years ago John Blanchard gave me a few bulbs which he described as a wild hybrid between *N. triandrus* and *N. bulbocodium*. When it flowered it was a most attractive, very dwarf flower, with a pale cream and wide corona, rather pendent in habit. In leafing through Calvert's old book recently called *Daffodil Growing for Pleasure and Profit*, I came upon a picture, Number 167 in the back of the book, of a hybrid called Trimon. It is exactly the same as the wild hybrid. From the name one could suppose that the parents of Trimon might be *N. triandrus* and *N. b. monophyllus*, and indeed that is what the flowers look like. Trimon was registered in 1899 by A. W. Tait and received an Award of Merit from the RHS in February of that year. I do believe that the bulb I have is Trimon.

Last summer I collected bulbs of both Hawera and April Tears from as many sources as possible. These are now in full growth and in some cases budding. The idea was to determine if possible the exact form of each and

the differences between the two. But I can see no light at the end of the tunnel, for I have strong vigorous bulbs with fine fat buds and short stubby forms with thinner foliage and no buds in each group. Clearly these are all mixed up and I wish I could talk to Phil Phillips who seemed to be so sure.

This year also I have had quite a fair amount of blooms on my first crosses, mostly bulbocodiums, and generally they are not worth considering. Most I fear will find their way to the garden where they will grow or die as they see fit. But one or two may have merit and I shall keep these for a year or two longer. One that is in flower now is a rather strange bulb being a cross between *N. cantabricus petunioides* and *N. cyclamineus*. Looking at it you would never know that it had either bulb as a parent, certainly there is not the slightest sign of the typical cyclamineus habit. The flower is not a sparkling white like petunioides but rather a warm white with richer tones. In shape the corona is long, similar to the normal bulbocodium but longer. The stem is quite short—not more than three inches—and it has been in flower now for over three weeks. This morning, with first flower open on *N. cyclamineus*, I have given it a second dose of this pollen. Two shots may give more of the cyclamineus form. Most bulbs throughout my collection seem to be budding well, with the notable exception of *N. gaditanus*, which you may recall flowered quite well last year. There may still be time, but it's very slow. Another that is not blooming is *N. triandrus pallidulus* Aurantiacus, but the pan looks very healthy so I have hopes for next year. I also have a fine lot of over forty seedlings of this bulb which I watch with an eagle eye.

Now to culture. During the season 1983-4 I still had quite a problem with basal rot. That year I had made up a new batch of compost which was sterilized with Vapam, and all the bulbs were lifted, cleaned, and repotted. The pots and pans were soaked in a chlorox solution and scrubbed clean, yet as the season developed I still had trouble. A substantial heap of the compost remained and this was stored in the open on a pad of black plastic and covered with the same to keep the compost moist, yet prevent heavy rain falling on it.

In July I decided that I would once again lift all my bulbs—excepting only the few in which I had duplicate pans—clean them, soak and clean the pans once more, and repot the bulbs in the compost that remained from the previous year. In the past I had also treated some bulbs which seemed very prone to disease with a shotgun mix of fungicides, mixed together as dry powders. The bulbs were either rolled and shaken in this, or if they appeared normal then just the base plate of the bulb was dipped as it was planted. I decided that this year all bulbs would be so treated. The formula of this mix in case you are interested is as follows, all parts by volume: 4 parts of 50% Benlate, 1 part of 30% Truban, 1 part of 30% Captan, and 1 part of 10% Phygon. The few pans that were not going to be repotted could not be treated in this way but the top soil was removed, down to the bulbs, new compost added, and the pans marked. I commenced repotting about the second week in August—slightly earlier than other years—and the compost was still slightly damp as it came out of the plastic storage. I

believe that this caused all the bulbs, particularly the bulbocodiums, to commence rooting immediately so that by the first of September many of them were strongly up. The net result of this early start has been to advance the blooming time of almost everything by about a month, although as we move through the season the gap is slowly closing. Thus I had many bulbocodiums in bloom at the beginning of October, and bulbs which had been in fine form last year at Christmas were at their best the latter part of November.

But the strangest development was the truly massive growth of leaves that has been produced on almost everything, quite out of character really, especially on the bulbocodiums. Pans which last year had a nice but modest crop of leaves through which the flower buds came without difficulty, this year have a thick matted pad of leaves on top of the pans. In many instances the delicate bulbocodium buds had difficulty in thrusting through. After much thought I came to the conclusion that the storage of the compost under black plastic outside through the summer was not a good idea. Certainly during the heat of summer temperatures must have built up under the plastic many times to a substantial level so that the final effect upon the compost was the same as if it had been steam sterilized. Certainly, the pans are weedless, but high temperature sterilization is known to release nitrogen, and that is what I think has happened. I have had the soil analyzed; and based upon the general level of fertility required for other greenhouse crops in pots such as chrysanthemums, it is not at all high. The pH is a little low at 5.3 but the total soluble salts is quite low at .70 ppm. Hòwever, there is a fair amount of nitrate nitrogen (54ppm) which coupled with rather low readings of both phosphorus (20ppm) and potassium (56ppm) is too much. While the phosphorus is fair, the potassium is too low; and with these guidelines I plan a new and more carefully balanced mix for next year.

It remains to be seen what the early start into growth coupled with the heavy top growth of leaves will do the the bulbs, as they begin to ripen, and of course upon flowers for next year. It will be interesting to follow.

One positive point seems quite clear to date. The efforts made to clean everything and the individual dipping of each bulb in the fungicide mix have virtually eliminated basal rot—so far! I have had about six bulbs show signs of trouble but these have all been in the pans which were not repotted and only topped up. I have yet to find a diseased bulb in any that were repotted. However, it is early yet; and I have had a fine lot of *N. triandrus* before, and once blooming is over is the time to be most careful. Then I shall have to watch my watering with the greatest of care, keeping the bulbs very much on the dry side as they die down. In two weeks time, on February 17th, some members of the New Jersey Daffodil Society are coming to see what I have in bloom on that date. I hope I can persuade someone else in this area to get the "bug" for species pan culture, so that I can have someone to argue with. It's lonely on your own.

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Daffodils in Ireland	$5.00
RHS Yearbook, Daffodils, 1974,'79	4.25
RHS Yearbook, Daffodils, 1980-81, 1982-83, 1983-84, 1984-85	5.00
Older RHS Yearbooks on Daffodils (as copies became available.) Write for years on hand with prices.	

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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