

THE 1959
AMERICAN
DAFFODIL
YEARBOOK

The American Daffodil Society, Inc.

The
American Daffodil
Yearbook
1959

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AMERICAN DAFFODIL SOCIETY, INC.

MISS ESTELLE SHARP, *Secretary*

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President, American Daffodil Society

The American Daffodil Society, Inc.

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The Daffodil Testing Program at Swarthmore College

JOHN C. WISTER, Swarthmore, Pennsylvania

THE Arthur Hoyt Scott Horticultural Foundation began its work at Swarthmore in 1930. The purpose of the Foundation as officially stated was to help horticulture and horticultural education by visual demonstration.

To this end there are planted on the college campus and the adjoining woodlands and meadowlands collections of some of the most important flowering trees, shrubs and herbaceous plants for the area of the middle states. The collections include from a dozen to fifty species and varieties of such flowering trees as magnolias, Japanese cherries, crab apples, hawthorns, dogwoods, from a dozen to several hundred species and varieties of such shrubs as forsythias, corylopsis, deutzias, spireas, philadelphus, loniceras, viburnums, lilacs, rhododendrons and azaleas, and finally from a hundred to four hundred or more species and varieties of such herbaceous plants as daffodils, iris, peonies, hemerocallis and chrysanthemums.

In all, there are now on the college grounds approximately a thousand wild species of plants and over four thousand garden varieties (which we are now asked to call cultivars).

In daffodils, with which this article deals, we have tested and discarded over a thousand varieties and from this testing we have selected and are now growing about 700 varieties.

I had grown a number of the better known varieties like Emperor, Empress, Sir Watkin, *conspicuus*, *poeticus ornatus* and *recurvus* in my mother's garden in Germantown in the decade before the first world war, but I had not brought together any comprehensive collection as I had with iris and peonies. I had heard, however, of the rapid development of the daffodil and in 1921 had the opportunity to visit the garden of Chester J. Hunt in Little Falls, New Jersey and to see what was then the finest collection in this country.

Seeing so many new varieties for the first time was, of course, confusing, and I realized I could not choose wisely between them, so I asked Mr. Hunt to pick out a representative collection, which he did that autumn. Some of them flowered for me in early April 1922 just before I went to Europe. In Holland I had the opportunity of visit-

ing some of the finest daffodil nurseries including van Tubergen, Krelage, Warnaar and van Waveren.

As a result of my enthusiasm over what I saw, I imported many bulbs during the next few years, and in order to judge them fairly, I began to plant them according to the classification of the Royal Horticultural Society, the old system that divided the flowers into *Incomparabilis*, *Barrii*, *Leedsii*, a classification which, of course, was later dropped. As a matter of fact, I became dissatisfied with this system of classification in the late 20's and substituted one of my own which subsequently turned out to be much like the new R.H.S. system.

My flower beds in Germantown were planted according to this classification, so that each new variety could easily be judged against the old ones. When the Scott Foundation began its work in 1930 and I brought over the bulk of my collection to Swarthmore, they were planted according to this system. When the new R.H.S. system became official, we changed to follow it.

Our chief plantings at Swarthmore were in 1932 - '37 - '47 and '54, and in each replanting of the study collection several hundred varieties were discarded and changes were made to put the newer varieties into the classification, and to get near each other those varieties most resembling each other and blooming at the same time.

The present study collection occupies a space about 40 ft. x 400 ft. and consists of 420 varieties in twelve rows. The first row is given over to extra early varieties, the second to early varieties and the third to mid-early varieties. Then there follow six rows of mid-season varieties, and finally a row of mid-late, a row of late and a row of extra late varieties.

As far as I know, an elaborate test planting of this kind has not been made elsewhere. It has its faults, of course. No matter how carefully we make records and try to fit in the new kinds, there are always some varieties that do not seem to fit where they were placed. On the whole, however, it is now possible to bring in a cut flower of almost any novelty and go up and down the rows and place it where it belongs in with those of similar form, color and season. In addition to these classified rows we have nearly three hundred novelties that have not yet been placed in this system.

In a general way, this same system has been applied at Swarthmore to iris, peonies, *hemerocallis* and *chrysanthemums*, and to

lilacs, azaleas and rhododendrons, and in each case we find it helpful to have the flowers that are much alike placed near each other. We realize full well that this does not make for the most artistic or pleasing arrangement. All horticultural magazines and books are full of suggestions for varieties to be planted near each other to harmonize in color or to make a contrast, but that is a totally different problem. If the object is to study varieties, such good landscape planting is deceiving because varieties are placed to bring out their best points and hide their weaknesses. Our system shows up both their best points and their worst ones, which is what we really want to find out about varieties before giving them a permanent position.

Daffodils are used more for naturalizing and massing than any other plants we have with the exception of rhododendrons, which do so well in our woods. We have, therefore, been anxious to find out which varieties do best in meadowland, and woodland, and which persist, and which varieties die out because of competition from grass, weeds, honeysuckle etc.

We have discarded many varieties which nearly everybody else has discarded but we have also dropped many which are other people's favorites. Our reasons for discarding are: first of all, constitution. We want a variety that will stand up and grow each year and increase reasonably well; that will flower each year and not have off years; and that will not be particularly subject to mosaic or basal rot. We do not grow blooms to cut for exhibitions, but rather we want varieties that produce a reasonable amount of flowers, and when planted in masses give a fine mass effect every year. We want, also, of course, the most beautiful flowers we can get and flowers in splendid form. For naturalizing, however, we feel that irregular flowers have a definite place, and for that reason have kept such things as Prince of Wales, Frank Miles, Torch and Prince Fushimi, none of which, of course, have a place on the exhibition table but which in a meadow, waving in the wind, can be most charming.

We have also some quite definite opinions regarding types to be naturalized. Extra large flowers seem entirely out of place for such use and we think there are but few trumpets and but few of the larger cups that are as suitable in massing as are the smaller cups and poets. We have not been able to naturalize any of the jonquils, which I very much regret. I have seen them often in the South and

found them very charming, but under our conditions they do not thrive in meadows and woodlands, and when planted there disappear within a few years.

We feel that our daffodil collection is of particular importance because daffodils are suited for the smallest as well as the largest place. They can fit into window boxes or city gardens, into suburban flower gardens or simply borders or open meadows and woodland. They can be grown and enjoyed by the veriest amateur and beginner, yet have such interesting variations and such great possibilities for future breeding that the expert and the specialist can never exhaust the interest in the genus.

The John L. Russell Garden

EDWARD B. DONNELLY, Boston, Massachusetts

THE tragic accident which took the life of John L. Russell has been a severe blow to the members of the American Daffodil Society as well as to his family. John Russell was the superb example of a man wholeheartedly devoted to his profession and to the horticultural ideal of constant progression toward new and advanced achievement in growing, selling and in showmanship. At the age of 74, he still retained the affectionate titles given him by the horticultural world of "Daffodil King" and "Flower Show Boy".

John Russell was born in Belfast, Ireland on July 9, 1884. He came to this country as a very young man to enter the seed business in New York. After a short time in New York he came to Boston to work for Breck & Son with whom he was associated for forty-eight years.

One of his most outstanding talents developed in the staging of flower shows for his company and his Gold Medals from these shows was phenomenal. Even as death claimed him his spirit was still with us in the recent daffodil shows where a display of daffodils that he grew won his last Gold Medal. He was a true flower lover, and, although his first love was daffodils he could grow anything from nerines, to lillies, gladiolus, delphiniums, and chrysanthemums.

One of his most outstanding achievements was, of course, the famous Russell Gardens in the Sandy Valley section of Dedham

where his four acres of naturalized daffodil planting has developed into one of New England's most beautiful showplaces. His family will keep open the Russell Gardens as a memorial to him.

Although sad circumstances have deprived us of John Russell himself, his pioneering spirit, his complete love of his profession, and the skills which he developed in growing, salesmanship and showmanship will perpetuate themselves in the living beauty he leaves behind in his garden as an inspiration to all of us and to the younger generations in horticulture.

Daffodils in Grandmother's Garden

MRS. WILLIE E. RICE HURST, Marshallville, Georgia

I AM glad that I was given this subject because I live in my grandmother's garden. Now that generation had a clear distinction between daffodil and narcissus.

Daffodils were one bloom to the stalk whether long or short trumpet — single or double formation.

Narcissus meant cluster blooms, white or yellow, single or double. Jonquils were still another group with rounded foliage.

The first narcissus of the season was the Paper White which in our section is very hardy outdoors and is in bloom for Thanksgiving continuing through Christmas and often adorned the Christmas table with its fragrant white stars combined with the brilliant red berries of the swamp bamboo.

These were closely followed by the single and double Chinese Sacred Lily. In the days of grandfather's stiffly starched detachable collars and cuffs every small village had its Chinese laundryman. They sent as gifts to their customers, bowls of bulbs growing in water and securely anchored by pebbles. After these bloomed they were transferred to the garden and forgotten. It required several years for them to recover and they still are temperamental bloomers but many a gardener has been happily surprised to discover this fragrant flower and wondered where they came by them.

January ushered in the small gay yellow trumpet daffodil known as the Buttercup. Berkley Nursery in Aldie, Va., lists this as Early Virginia. It might just as well be Early Georgia or any other state because all the early settlers cherished them.

A very dainty bicolor daffodil with light yellow perianth and slightly darker small cup was shared in the community by a dear friend called Aunt Callie; thus the daffodil was known, late it was identified as *barrii conspicuus*.

Following closely was the rich yellow of the jonquils. Larger stems than the buttercups and one to four florets to the stalk with a very distinctive fragrance. The daintiest of the group was *jonquilla simplex* with the rounded petals which was called Queen Anne. A clump of these would perfume the garden. This also came in a double form which our colored friends could grow to perfection but we failed to get results. The taller, larger jonquil was the Campernelle.

February brought in a large cluster cream colored narcissus which we knew as Grandma's until we were introduced in recent years to Grand Monarch. A polyanthos now classed as a *tazetta*.

Blooming at the same time was a superb cluster with vigorous gray green foliage. This was white and larger in every respect than the Grand Monarch. This bulb was brought into the community as a gift to a neighbor who refused to give, trade or sell to friends who coveted it. Years passed and her garden was crowded with the increase but nary a one would she share. Her church burned and the ladies of the Missionary Society went begging a contribution for the building fund. "No," she said, "I am a poor widow with no money to give you." "Yes," they replied, "but you have a garden full of these fine narcissus. Why don't you sell some of them and give the money to the church?" They had her cornered, so that is the way they spread over the village. An old Government Bulletin described them as The Pearl. The present daffodil authority lists White Pearl in Division 2c and The Pearl in Division 4, but this is a glorious *tazetta* — Division 8.

There is a late yellow cluster with jonquil-like foliage which my mother called late-yellow sweet-narcissus, our colored friends called it Devil's Shoestring. In a sister state it is called Gold Dollars. We enjoyed a childhood game called "Fishing for Jacks." Yes, on dry land. We would gather the foliage then search for neat round holes in the garden path, bait the long leaf with moist sand and force it down the hole then give a quick jerk which brought a queer white worm with a black head tightly gripping the narcissus fishing line to the surface.

Then there was the Pheasant's Eye which is the dainty *poeticus*.

The Butter and Eggs which bloomed so gladly the first year from Holland then deteriorated into a deformed greenish yellow was the van Sion which the government tried out in every section of our country without success. This has been confused with the Phoenix group which do hold their original form and have been with us for generations.

Closing the season was the May narcissus also called Twin Sisters and Husband and Wife. White perianth with small cream cup and only two florets to the stem. This is listed as *biflorus* in Division 10.

I feel sure there were others but I have discussed with you only the ones in my grandmother's garden which have come down through the years and are lovingly cherished. My plea to you is that in your enthusiasm over the new introductions you not abandon the daffodils of our grandmother's garden.

White Daffodils

W. J. DUNLOP, DUNROBIN BULB FARM
Broughshane, Ballymena, N. Ireland

THE development of the modern white daffodil provides one of the most interesting stories in plant breeding. It is almost impossible to believe that the magnificent flowers available today have been evolved from the few, very small, thin, raggy flowers available half a century ago. I do not intend to deal in detail with developments over the years but mention must be made of a few of the more important "milestones" in this remarkable story.

The late Rev. G. H. Engleheart was one of the great pioneers and his trumpet Beersheba and his large cupped flowers Tenedos, White Sentinel, and Mitylene provided the foundation on which much hybridizing was done.

About twenty five years ago Mr. Guy Wilson introduced Kanchenjunga giving a breadth of petal and thickness of substance previously undreamed of, together with greatly increased size. I always thought very highly of this and still regard it as one of the very best flowers we have. As grown here it is truly a wonderful flower as one little incident which occurred at the London Daffodil Show



Madrigal

Grant E. Mitsch

some few years ago illustrates. I had some quite magnificent flowers of this in water, ready to start staging, when a Dutch friend took one of the best and mixed it in a vase of the newest seedlings of similar type from another Irish friend while he was out to lunch. When he returned my Dutch friend asked him "which one is this" pointing to the bloom of Kanchenjunga. "Oh," he replied, "this is my best seedling but unfortunately the label has been lost." Naturally this resulted in a bit of good natured leg pulling but to me it was ample proof of the value of Kanchenjunga. I doubt, however, if it grows everywhere in such good form as in its native soil and climate. Broughshane bred from Kanchenjunga pollen appeared a few years later, being a rather larger flower with still a greater breadth of petal. These two varieties have been used very extensively since their introduction, and appear in the pedigree of many of our very best whites of both Division 1c and 2c.

Many things have been introduced in recent years and it is really difficult to know just the very best in each section. I grow practically everything to which I intend to refer and of course my remarks are based on the performance of each variety under my own soil and climatic conditions. Beginning with trumpets, Cantatrice is still the finest show flower at a moderate price, being of very perfect form and wonderful quality. It has headed the R.H.S. Ballot as the finest white trumpet for years. Other fine flowers in this range are: Ardclinis, bred from Mrs. E. H. Krelage by pollen of Beersheba; Samite, from the same cross, even thicker in substance but hardly so very white; Scapa, a very nice garden plant; and, last but not least, Kanchenjunga and Broughshane both being really wonderful things for any purpose.

Amongst the very newest and most expensive things of which stocks are still very small, Empress of Ireland is outstanding. This flower, bred from Guardian by Kanchenjunga, is worthy of all that has been written about it. I remember vividly seeing it flowering as a selected seedling, and I have never altered my opinion of it since as it has, if anything, improved since those days.

My own Stormont, bred from Ardclinis \times Kanchenjunga, is a very promising new thing, best described as a giant, snow white Ardclinis. Vigil is another superb icy white, which, I think, has Courage blood in its pedigree.

Coming to Division 2c, probably Niphetos is the best in the lower price range. Parkmore and Truth are two very fine early flowers

which come consistently well. A new flower which looks most promising is Snowdream of rather similar type and an extremely good plant.

Ave is one of the most perfect flowers in cultivation coming in best form in pots in a cool greenhouse. Wedding Bell is of similar type with even better substance.

Brookfield and Glenmanus are two flowers of fairly recent introduction of the very highest exhibition form and quality, the former being slightly the larger. Both were superb here this year.

Ludlow, now no longer new, is very fine indeed, being icy white with a lovely green base. Zero also has a lovely trumpet crown with spreading perianth and green base.

Glenleslie, raised from White Sentinel \times Evening, is about the whitest flower known to me and is very popular as a show bloom.

It is impossible to more than mention many other lovely things recently introduced, but Castle of Mey, Knowland, Shantallow, and Easter Moon come to mind as well worthy of mention.

Rashee is one of which I am very fond, being about the most lovely of the many fine things raised by Mr. Guy Wilson and one which I hope will prove a good doer under various conditions of soil and climate.

Two of the very newest of 2c's are Glendermott and Whitehead. Both are of the most perfect form and quality, and will no doubt come into the very front rank.

Division 3c contains many lovely things, but many flower much too late to be in time for exhibition at the spring shows. By far the finest for this purpose is Chinese White, raised some time ago, and still truly superb when in its best form. I well remember the blooms of this which I exhibited at the R.H.S. some years ago which were awarded a First Class Certificate. Many seedlings have been raised from it and are in various stages of development but meantime this variety is unbeatable in its class.

The lovely late flowering things which help to prolong the flowering season until almost the end of May here include Silver Princess, Cushendall, and last but by no means least, Frigid which sometimes lingers into June. It is a real gem with snow white petals and a small cup with lovely green based eye.

No article on whites would be complete without mention of two lovely late flowering doubles. Rose of May is most vigorous and free flowering, giving flowers of moderate size and most beauti-

fully scented, making an ideal market flower. Santa Claus is a truly wonderful flower of splendid size and quality, but unfortunately a poor doer which I find difficult to increase even under my fairly favourable conditions.

Daffodil Black Sheep

HELEN C. SCORGIE, Harvard, Massachusetts

MENTION of double daffodils usually brings the remark, "I do not care for doubles." When one considers that a double wild flower is held as a find, something precious, to be propagated and cherished, and that many plants, such as roses, are preferred by most as doubles, one wonders why the daffodil in its double form is so universally unpopular.

There are some gardeners in types of gardening who, on general principles, do not like any double. Doubling to them is a monstrosity, whether it be in a rose, a peony or a daffodil. This is quite aside from the average aversion to a double daffodil.

In the past, when the daffodil was to gardeners a wild flower to be collected for the garden, double clones were choice in their eyes. Some of these clones have been in gardens so long that their origins are lost in the dim past.

Most ancient of these is the little star-shaped Queen Anne's double daffodil. This pale yellow beauty has been in gardens for three hundred years and is not known in the wild. It forms a six-pointed star with the corona absent, and the perianth segments which are duplicated are placed in each succeeding rows exactly one over the other.

I have used the name, Queen Anne's double daffodil, because this name is the best known in this country but it has always been frowned upon by the compilers of the Classified List who omit all mention of this common name. Catalogues generally call it *capax plenus* but place it with the trumpets. *N. capax* of the catalogues is botanically known as *N. triandrus* L. var. *loiseleurii* (Rouy) Fernandes. *N. capax* is *N. eystettensis* Hort, a garden hybrid of *N. triandrus* L. and a double trumpet. I suspect that it will live another

300 years in gardens before the average gardener, conservative as a glacier, will accept this scientific name for ordinary garden use. To those who object that both the daffodil and jonquil antedated the stodgy queen, it might be suggested that she was not the first queen to bear that name.

Perhaps more grown in British and American gardens than any other daffodil is van Sion. Since the days of Hartland and Barr, it has been grown in every cottage garden and was brought early along with the sweetbriar to New England farms. It is not known in the wild, except that it has now so widely escaped from gardens, nor has any wild form been found from which it might have developed.

Its history strikes a familiar note. Has not the same thing happened in your garden as in mine? The story is told by Parkinson in the *Paradisus*. A London gardener, Vincent van Sion, had a small daffodil that he nursed along for many years before it bloomed. Incidentally, this part of the story makes me wonder if it might not have been born in Vincent's garden, parented by two daffodils not found together in nature. One would have expected that a gift bulb would not have taken many years to reach blooming size. When, at last, a fat bud appeared and finally opened, to his delight, it proved to be a double flower. He felt sure that a certain friend had given him the bulb but the friend disclaimed all knowledge of it. So the daffodil bulb remained a nameless mystery in that London garden. In spite of time and space, it makes that garden seem very near to a modern garden where mystery plants pop up.

Like a modern gardener too, when his treasure increased, van Sion shared it with his friends. Unassuming as he was, he did not name it but, to Parkinson who received some bulbs, it was "van Sion's daffodil". But Vincent was not so fortunate in all his friends. Some of the bulbs went to a florist named Wilmer and, after van Sion's death, this man introduced the clone under his own name to the great annoyance of Parkinson.

This name, "Wilmer's daffodil" was apparently rather widely used in England and still is mentioned occasionally. But it seems never to have reached these shores though another early error is sometimes seen. A very popular writer of the past generation and probably others Germanized the Flemish gardener's name.

As mentioned above, this daffodil resembles no wild species. So Haworth imagined up a single trumpet narcissus and called it *N. telamonius*, from the name of the father of Ajax, Telamon, and

donated this imaginary *N. telamonius* to van Sion as a parent. This is its officially accepted name though such pseudo-scientific names are frowned upon these days.

The double poet, officially, *N. poeticus* L. var. *flore pleno* Hort., is another old-timer, very much loved where it will flower. It is a garden sport of *N. poetus* var. *recurvus*. What its garden requirements are seems to be anyone's guess. It has been growing around my house under semi-wild conditions for forty years without lifting. It is growing partly in a rich moist loam, and partly, in a lighter loam, mostly under deciduous shrubs. In these locations, it blooms about as freely as the other old daffodils with it.

In my garden, however, it is growing on a well-drained slope, in gravel and full sun. There it blooms more freely. This, however, may be because the bulbs have not been down many years and the clumps are small.

British writers at times make mention of occasional bulbs showing red in their flowers due to the presence of bits of the corona. It has also been said to have occasional green segments. I have never seen either coloration here. It blooms in the garden as freely as any of the doubles, more so than some of its hybrid kin as Swansdown or Shirley Temple.

Here are three double daffodils that are much loved. In addition, Cheerfulness and its children are much grown and liked. Here doubleness is actually preferred. How many grow Elvira, the parent of Cheerfulness, or even know it?

The most satisfying thing about a daffodil in the garden is the balance of its parts. Unconsciously, I believe, we give this more consideration than we realize and this balance is awry in many of the big doubles of the past.

The multiplicity of the floral parts has often upset the balance, making the flower top-heavy. The stem is the most critical part of any daffodil for its garden value. This, after all, is what most of us are interested in. But, with the big doubles, we have a more difficult problem of securing a strong stem that, at the same time, does not become too thick for esthetic values.

It would seem that, in the case of double daffodils, the grassroots gardener has the better point of view regarding size. Perhaps the weight of their opinion will someday make a dent in that of the experts.

Miniature Daffodils

ALEC GRAY, Camborne, England

WHILST acceding with pleasure to the request to write a review of what I consider the best miniature daffodils, I was conscious that a number of people on the other side of the Atlantic may well object that my selection might be all right for England but quite unsuitable for the harsher conditions of the U.S.A. I do not think that this objection is valid, however, as it must be remembered that all the miniatures are either wild species or, at most, not more than two generations removed from the wild, and in the homeland of all the species, except the Lent Lily, climatic conditions are much nearer to those of America than to those of England.

A word regarding definition. I have not adhered to that laid down by the Royal Horticultural Society insofar as I have ignored the diameter of the flower, but I have gone further than the Royal Horticultural Society by including nothing more than nine inches in height, and most are very much less.

For easy reference I am listing the sorts I have chosen in groups, with a note against each selection giving an indication of the reason why I have included it.

The *N.* before a variety indicates that it is a wild species.

BULBOCODIUMS

N. bulbocodium foliosus. White, 4 inches. To start the season in the alpine house. Not suitable for outdoors, except in very warm localities.

N. bulbocodium romieuxii. Pale yellow, 4 inches. To follow on at Christmas. Hardier than the last but better indoors.

N. bulbocodium nivalis. Yellow, 2 to 3 inches. Will follow *romieuxii*, also the dwarfest *bulbocodium*. For pans or pockets in the rock garden.

N. bulbocodium citrinus. 5 to 6 inches, pale citron. Mid-season; lovely soft colour. For either border, rock garden, or grass. Will thrive in damp situations.

N. bulbocodium conspicuus, or *filifolius.* Bright yellow, 4 to 6 inches. Very like each other, but *filifolius* is more vigorous. Both for naturalizing in grass.

N. bulbocodium tenuifolius, or *obesus*. Bright yellow, 3 to 4 inches. Late flowering, for border or rock garden. Foliage prostrate in both cases, but *obesus* is larger and more vigorous.

TRUMPETS

N. asturiensis, (*minimus* of gardens). Yellow, 2 to 3 inches. The dwarfest and earliest. For pans, pockets in the rock garden or in the alpine lawn.

N. minor, (*nanus* of gardens). Yellow, 3 inches. Rather larger than *asturiensis*, later, and more vigorous. Can be used for similar purposes.

N. nanus, (*lobularis* of gardens). Perianth pale yellow, trumpet yellow, 6 inches. Mid-season, increases rapidly, for borders or grass.

Bambi. Perianth white, trumpet yellow, 6 to 8 inches. A very early form of Lent Lily. Almost the first outdoor daffodil. For borders or grass.

Tanagra. Yellow, 6 inches. Very early, and a beautiful form. For pans, border, or rockery.

Little Beauty. Perianth white, trumpet yellow, 4 inches. A beautiful, stiff little flower of high quality. For pans, borders, or rock garden.

Wee Bee. Pale yellow, 4 inches. A smooth little flower, relatively late. For rock garden.

W. P. Milner. Cream, 8 inches. A graceful, fairly early variety, useful for all purposes. If a pure white flower is preferred, there is *N. moschatus*, (*cernuus* of gardens), which is very similar.

TRIANDRUS SPECIES AND HYBRIDS

N. triandrus albus. Milk-white, 4 inches. The best species, for well-drained pockets in the rock garden, or for pans.

N. triandrus aurantiacus. Golden-yellow, 5 inches. Earlier than *albus* and slightly taller. Likes the same conditions.

Frosty Morn. Snowy-white, 6 to 8 inches. The best dwarf white *triandrus* hybrid, and of very good constitution. For all purposes.

Shrimp. Very pale yellow, 3 to 4 inches. In appearance half-way between its parents, *triandrus albus* and *juncifolius*. The best of its colour. For rock gardens or pans.

Hawera. Yellow perianth, slightly paler cup, 6 inches. Very graceful and a good doer. For all purposes, except naturalizing in grass.

April Tears. Golden perianth, slightly paler cup, 6 inches. Very much like Hawera, but later and deeper in colour. Increases very rapidly.

CYCLAMINEUS SPECIES AND HYBRIDS

N. cyclamineus. Bright yellow, 4 inches. Very early, for pans, rock garden or grass in damp situations.

Baby Doll, (syn. Caerhays). Bright yellow, 6 to 8 inches. Good doer, charming form, and useful for any purpose.

Snipe. Milk-white, 6 inches. Very graceful, with long trumpet. The best white *cyclamineus* in commerce.

Jack Snipe. White perianth, yellow cup, 6 inches. Very sturdy. Almost the only yellow and white flower in this group.

N. cyclataz. Yellow perianth, orange cup, 5 to 6 inches. Bunch-flowered, and very early. Excellent for pots to bloom soon after Christmas.

Tête-a-Tête. Yellow perianth, orange cup, 5 to 6 inches. Like *cyclataz* but only one or two flowers on each stem. Much better form and substance, and later.

JONQUIL SPECIES AND HYBRIDS

N. juncifolius. Bright yellow, 3 to 4 inches. Bunch flowered, late, very sweetly scented. For pans or dry corners in the rock garden.

N. rupicola. Butter-yellow, 3 to 4 inches. Like *juncifolius*, but single flowered and of perfect form. Likes similar conditions.

N. watieri. White, 3 to 4 inches. A snowy-white replica of *rupicola*. A little more difficult and likes light shade in summer.

Kidling. Deep yellow, 6 inches. Like *juncifolius* but rather taller, even later to bloom. Very hardy and prolific.

Lintie. Butter-yellow perianth, flat orange-red cup, 6 to 8 inches. Late, often two-headed. Vigorous and increases rapidly.

Bobbysoxer. Yellow perianth and small orange-red cup, 6 to 8 inches. Similar to Lintie but earlier and more refined flower, for borders, etc.

Sun Disc. Light yellow perianth and pale orange cup, 6 to 7 inches. Similar to Bobbysoxer in form, but slightly dwarfer, and much earlier.

VARIOUS NARCISSUS

N. canaliculatus. Milk-white perianth, citron-yellow cup, 4 inches. The only really dwarf *tazetta*. Very sweetly scented. Rather a shy flowerer and the bulbs need thorough ripening.



photo J. E. Downward

Miniature Narcissus Tête-a-Tête

Halingy. White perianth and pale yellow cup, 4 inches. A very dwarf *tazetta* hybrid that is almost the first variety to flower in the open. Not suitable for pots.

Kenellis. White perianth, cream trumpet, 6 inches. A *bulbocodium* hybrid that is very useful because it blooms over a very long period.

Xit. White, 6 inches. Like a miniature 3c; of very beautiful form. For the border or rock garden. Not suitable for pots in my experience.

Tweeny. Milk-white perianth and lemon yellow cup, 6 inches. Generally twin-flowered. Valuable to end the season. For border or rockery.

Pink Daffodils

FRANK WINTER, Hinsdale, Illinois

THE following notes on pink-cupped daffodils may need revision after more familiarity with some, of which I have seen only single cut specimens at exhibitions. On the whole, though, I think this will be found fairly accurate. Most of those listed I have either grown myself or seen in established plantings.

To my mind the loveliest pink seen was the single flower of Flamingo that Grant Mitsch brought to Atlanta last spring. I believe that I will never regret buying it. Next in favor is Rose Caprice, which Richardson sent to Washington in 1956. With these I must include Radcliff's Pink Monarch, of which I had four blooms at home. Not so deep a pink but a most perfect flower, though a bit short and apt to come with split cup. This is a finer, slightly larger Rosario, with more color than Rosario has ever given me. In this group one must include Salmon Trout, excellent, though I feel that Flamingo and Rose Caprice will top it.

I grow about 25 Radcliff pinks, and like Karanja, Roselands and Roseum. Bulbs from down under are slow to become acclimatized so comment on others must await further trial. Pink Monarch has bloomed twice and increased well in three years. Karanja flowered the first year down and skipped blooming for two years but has increased. My note on Roseum is "good".

Last year I had a dozen new pinks from Jim Radcliff and held them from April until our normal planting time. Some bloomed this year. Most were praised in an article by Campbell Duncan in the 1955 RHS Yearbook, in the part pertaining to Radcliff. They included such excellent ones as Roseum, Rosebowl, Pink Bonnington, Roslyn, and Exclusive. I planted one afternoon and the next evening on my return from work I went out to make a chart and found that tragedy had struck. A couple of four-year-old boys had pulled up every one of the white plastic labels and aluminum wire stakes and had strewn them about the yard. What to do? I suppose I will have to give them numbers and enjoy them with their anonymity. I can be sure of only one, for Rosebowl came with a good-sized chip which I detached, so if there are two alike that's it.

Guy Wilson's Moylena and Brodie's Loch Maree are good. The first has a fine stem but, like Rosario, the color varies with the season. Rose of Brodie is almost a duplicate of Loch Maree. Rosario I like for its fine form though the stem is shorter than the two foregoing. It does not get much color for me but I shall always grow it.

Two quite similar pink-eyed cups are Mitsch's Rose Ribbon and Richardson's Infatuation. They are from different crosses, but look like an improved Mabel Taylor or Interim. This latter I do not care for because it seems too irregular, but I like Mabel Taylor and it makes a gay spot in my planting.

Cara Nome at Atlanta struck my fancy so I bought it. The cup as I remember it has the pink coloring inside it. I omit mention of other Mitsch pinks for I have not seen them.

I have about ten of the Dutch pinks and find them rather short-stemmed. Best are Louise de Coligny and Menton. Pink Glory is pretty good. In the new plantings at Mansfield, Filmster seemed a better Siam but was also short.

This year I returned to Mansfield to re-check last year's notes and try for color-slides for ADS film library. I saw Irish Rose but it seemed pale. Planted elsewhere or in another season it may come better. Roman Candle, from Oregon Bulb Farms, has a good stem, but I think that the flower fades on aging. It might have been the weather.

I note that I have omitted mentioning Compton Mackenzie, which Richardson sent to the Washington meeting. It has good color and stem but it hangs its head. Worth having. Rose of Tralee never had much color for me. Wild Rose I never had but Radcliff's Amigo

is much like it — a good small one. Speaking of small pinks, we must not forget Cherie, a darling, with several flowers to a stem — a pink *jonquilla*.

Most all of the good pinks rate as 2*b*. The one trumpet that I can remember is Roselands. I should soon see blooms from many crosses with Mabel Taylor as pollen parent with trumpet seed-parents and perhaps there will be some cups of trumpet rating. Here's hoping!

Recommended List of Miniatures

GEORGE W. HEATH, Gloucester County, Virginia

<i>Class</i>	<i>Variety</i>	<i>Blooming Date</i>	<i>Class</i>	<i>Variety</i>	<i>Blooming Date</i>
10	Angel's Tears	5	10	<i>jonquilla simplex</i>	7
2 <i>c</i>	Angie	4	10	<i>juncifolius</i>	10
5 <i>a</i>	April Tears	12	7 <i>b</i>	Kidling	9
5 <i>b</i>	Arctic Morn	7	3 <i>b</i>	Lady Bee	10
10	<i>aurantiacus</i>	5	6 <i>a</i>	Little Witch	8
6 <i>b</i>	Beryl	8	10	<i>minimus</i>	1
10	<i>bulbocodium</i>		11	Nylon	Dec.-Jan.
	<i>conspicuus</i>	7	7 <i>b</i>	Orange Queen	5
10	<i>bulbocodium</i>		4	Pencrebar	11
	<i>romieuxii</i>	Jan.-Feb.	5 <i>a</i>	Raindrop	10
10	<i>calathinus</i>	10	10	<i>rupicola</i>	7
10	<i>concolor</i>	7	5 <i>b</i>	Samba	8
10	<i>cyclamineus</i>	8	10	<i>scaberulus</i>	9
5 <i>b</i>	Dawn	8	5 <i>b</i>	Sidhe	10
1 <i>a</i>	Dove Wings	7	6	Snipe	8
3 <i>b</i>	Fairy Circle	9	10	<i>tenuior</i>	8
7 <i>b</i>	Flomay	7	10	<i>watieri</i>	7
5 <i>b</i>	Frosty Morn	9	7 <i>a</i>	Wee Bee	7
5 <i>a</i>	Hawera	9	3 <i>c</i>	Xit	8
6 <i>a</i>	Jenny	7	5	Yellow Warbler	7
10	<i>jonquilla</i> Helena	12			



photo J. E. Downward

Miniature Narcissus April Tears

Favourite Daffodils in Holland

P. DE JAGER, P. DE JAGER & SONS INC., So. Hamilton, Mass.

IT IS our pleasure to comply with the request of the American Daffodil Society to write an article about narcissus and daffodils raised in Holland. Probably nothing attracts more attention than a patch of real golden daffodils in the garden; it gives color and always the happy feeling that Spring has really come again.

From our experience, trumpet daffodils are the most favourable kind of flowers for the public, and there is nothing that can surpass their strong constitution for garden use as well as for cut flowers for the market. The "good old" King Alfred has been a real "King" among daffodils for a long time and is still one of the most popular varieties. Many other valuable trumpets have come on the market too, such as the splendid forcing variety Golden Harvest, the tremendous sized Unsurpassable, the correctly formed Dutch Master, Burgmeester, Gouverneur and Rembrandt; all are of Dutch origin and highly praised commercial varieties. A newer addition is the perfectly formed variety of Gold Medal, a short stemmed deep golden yellow trumpet especially suitable for pot culture. This variety and the well formed Joseph McLeod and the beautiful self-colored Golden Goddess are three truly valuable trumpets of a fine consistent performance.

There is a great difference between a commercial variety and a flower of exhibition value. The first has proved its quality for a long time for garden use as well as a market variety, but the main essential for a good show-flower is form, finish, grace and beauty. In this respect, the English raised variety Kingscourt, leads a group of handsome flowers such as Garron, Goldcourt, and Spanish Gold.

New color breaks in trumpets varying from light to deep lemon shades, have won the admiration of the public. Grapefruit, Moonlight and Mulatto, raised in Holland, are beautiful, decorative daffodils. The perfectly formed Hunter's Moon, Moonstruck, and the reversed bicolor Spellbinder, are raised by the English. They are all flowers of lovely form and quite distinct in color.

In Division 1b, the pretty bicolor section, not many changes have been made, and the old commercial varieties such as Spring Glory, Queen of Bicolors, and Pres. Lebrun are still in the lead of the best sellers. Oklahoma, with its deep yellow trumpet is a striking novelty of high quality and splendid form. We mention in this section also

the well-formed British varieties, Trousseau, Preamble and Lapford, which are real exhibition varieties of very high standards.

In the white trumpet Division, progress continues steadily, and only time can decide which of the fine varieties will eventually survive the test and become a standard variety. Beersheba and Mount Hood have proved their quality and are the best in the commercial whites. The glorious white trumpet Broughshane, and the faultless from of Glenshesk and Scapa, are varieties of high exhibition standards. Heading the list in the white trumpets, is undoubtedly the well-balanced Empress of Ireland, the most expensive one at the present, with a perfection of form seldom seen in any other flower. Although its trumpet is lightly suspended, it is surely a very fine exhibition variety because of its faultless formed perianth.

Pink colored daffodils have captured the attention of the public, but there are just a few true-color ones in the commercial class, one of course, the famous Mrs. R. O. Backhouse. It is not a variety of modern English style, because of its perianth, but it is the beautiful deep pink colored medium sized trumpet that attracts attention to this variety. Pink Rim, Rosy Sunrise and the sweetly scented Louise de Coligny, are really good pink-colored varieties of Dutch origin. The most sensational break in pink is the deep salmon-pink colored Easter Bonnet, a flower of substantial quality with a beautiful serrated trumpet. Another very high standard variety is the faultless-formed pink colored Salmon Trout, highly awarded with F.C.C. of the R.H.S. and undoubtedly one of the outstanding varieties in this section. On first opening, it is just like a bicolor and its lovely pink color shows as the flower ages. Another real fine pink is Pink Isle.

It is in the developments of the red cupped narcissus where the most striking progress has been made. Fortune, the most sensational variety of all times is still a favourite flower of high value, and many red cups of later addition failed in comparison with the good formation and pleasing color combination of this variety. In our opinion another rising star is the deep orange colored Armada, the coming variety of the future and nothing can surpass the superb quality of this new introduction. It has the advantage of being practically sun-proof. Flowers like Armada, Sun Chariot and Rustom Pasha show their color as the flower develops. Tinker and Revelry are perfect show flowers of excellent formation. We have also in mind three splendid varieties from Dutch origin such as Tannhauser, Delibes

and Sidney Torch, beautifully formed seedlings from the well known Aranjuez, of which they are great improvements.

In regards to the clean colored Division 2*b*, the whites with yellow, orange or red cups, the deep red cupped Kilworth and the orange edged Fermoy immediately come to mind. Being show favourites for a long time, they are appearing on the market now at reasonable prices. Progress continues steadily and we notice the beautiful large cupped Rococo and Belisana, the vivid orange colored High Life, and the striking red cupped Edly Canzony, all magnificent showflowers of enormous size and beautiful coloring. We admire Duke of Windsor for its noble form, fine apricot colored cup, and free flowering habit. Truly a magnificent garden variety. The clean colored Papillon Blanche also deserves to be tried. We would like to mention the striking English varieties Tudor Minstrel and Arbar. These are two highly awarded novelties of super-class with their beautifully formed perianth and orange-red crown.

There are numerous excellent varieties, which gain in popularity every year. Several years ago our Holland Office established its own hybridization department, and under the careful supervision of the well known Mr. Sabelis, we were able to raise thousands of seedlings and one day we hope to introduce some excellent varieties.

HISTORICAL NOTE

THE following quotation from the book, *The Practical American Gardener*, published at Baltimore in 1819, indicates that some American gardeners were growing daffodils from seed at that time, although probably not engaging in hybridizing as we now do it. The excerpt is from page 328, under the month September.

“The seeds of tulips, hyacinths, narcissus, irises, crown imperials, fritillaries, and lilies, or any other kinds of bulbs, whose seeds are ripe, may now be sown, in order to obtain new varieties. These, if sown as soon, after being ripe, as they are sufficiently dry and hardened, will vegetate the ensuing spring; but if kept out of the ground till spring, very few of them will come up for a full year after . . . (Instructions for sowing, etc.) A few of the strongest roots will flower the fourth year, about one half may flower the fifth, and in the sixth year, every healthy root will bloom. In this method, all the curious varieties are raised, and if one valuable new flower is produced from hundreds thus propagated, the florist exults.”

R. C. W.

How I Grow Daffodils

GEORGE L. SLATE, Geneva, New York

I GROW daffodils because I like them and they are the first spring flower that is large enough to cut for the house. Their bright, pure colors and light graceful habit are very appealing. For the small amount of care required they provide large dividends of pleasure

My garden is large and as my interest in plants is not limited to daffodils, I must grow them with a minimum of effort. My methods would not be approved by those who make a hobby of daffodils and must have maximum performance each year for show purposes, or to impress other fanciers who visit the garden.

The bulbs are planted in rows across 6 foot beds and are mulched with sawdust or shavings to a depth of 2 to 4 inches. The mulch eliminates most of the weeds except the occasional vigorous ones that start where the mulch is thin. Bindweed is allowed to spread over the bed until it blooms and is then sprayed with 2,4-D after the daffodil foliage has died down. The others are pulled by hand as needed. If the mulch is thin and numerous weeds start in midsummer, fuel oil spiked with Sinox will get them in a hurry.

The mulch is applied in winter or at any time during the dormant season when there is time. In very cold weather when the ground is bare the mulch may well be needed for winter protection. My first planting of daffodils made in the fall of 1933 was destroyed that winter when the temperature dropped to -31°F without snow cover.

A light application of a 10-10-10 fertilizer is broadcast over the bed early in March. How much good it does I do not know, but since sawdust may cause nitrogen starvation, it is used as a precaution. Heavy applications are avoided as they might stimulate basal rot. Manure is never used as it has a bad reputation with many bulbs.

The bulbs remain down 4 or 5 years and then they are dug and divided. Undoubtedly they would perform better if dug more often, but digging bulbs in mid-summer is a hot job that is postponed until it cannot be put off any longer, which is the fifth year. A 5 year old bed blooms freely, but the flowers are smaller than they should be. The principal disadvantage of leaving the bed down that long

is that the bulbs that are replanted are small and the first year performance of the new planting is not as good as if full size bulbs had been planted. However, the big increase, sometimes 20 to 25 bulbs from one in five years, provides lots of bulbs for the new bed.

Bulbs are replanted as soon as possible after digging. Purchased bulbs that arrive in late fall often do not perform well the first season. Presumably they have a short period to make root growth. Early planting is well worth while with daffodils.

The beds are rotated and are set on ground that has not recently grown daffodils. This gets away from having our new planting mixed with bulbs that are always missed in digging, but how beneficial it is in reducing trouble from soil borne organisms I do not know. Perhaps one without room enough for rotation should look into the matter of soil sterilization with some of the many chemicals now available for that purpose.

Disease has not been a problem except with the yellow trumpets which tend to die out with basal rot. King Alfred left in a hurry, but Dawson City has persisted and is a favorite for that reason. Several other trumpets have been around for several years but there are usually skips or weak plants in every lot. More attention to basal rot resistance by the breeders would be appreciated more by me than any increase in flower size.

Daffodil varieties are so numerous and catalog descriptions so useless in selecting varieties that I have had to rely on the recommendations of the experts who have grown or seen many varieties. It is a waste of money to buy all the new ones as they appear, knowing that most of them are little better than the older sorts, and that most of them will soon disappear from the catalogs.

The lists of recommended varieties that appear each year in the daffodil yearbooks of the Royal Horticultural Society are invaluable to one who does not get to large shows or trial grounds. The accounts of the shows with lists of winning varieties are also very useful. The recent symposium of the American Daffodil Society is a useful source of information on varieties. Varieties are selected from these lists with a \$3.00 limit per bulb.

An expenditure of \$10.00 to \$20.00 per year for several years can soon provide a fairly respectable collection of varieties. At one time an arrangement with another amateur like myself was made whereby each bought a separate list of varieties and divided the

increase after two years. After a few years of this, one can splurge on some of the more expensive bulbs.

The collection is maintained at about 100 varieties, but it increases somewhat as varieties are added. At the 5 year digging the poorer varieties are discarded and a special effort is made to add the better varieties as replacements and reduce the number to 100.

The varieties are planted according to the classification with the yellow trumpets together and so on down through the classification. This facilitates comparison of varieties which is essential if the poorer sorts are to be eliminated.

Designs with Daffodils

RUTH LEWIS HALLER, Frederick, Maryland

ONE of my friends, a true horticulturist, a serious grower of daffodils is also amazingly enough considered a top-flight arranger. He would rarely use the older varieties mentioned in this article, but rather makes similar designs with the newer varieties. To him, a single bloom seems even lovelier in a vase proportioned to the individual specimen than does a similar daffodil on the show table where all too often it rests in a coke bottle or other unglamorous container.

We admit that well grown specimens cannot always be given the distinctive placement so deserved, since competitive horticultural show rules curtail the use of "props". What about those other blooms, however, the ones that are not quite tops — those which bloom in mass plantings or those that arrive from friends or florist? How do you handle these?

Certainly they will be placed in water, and in a container suitable for the quantity and textural quality of your daffodils. Some type of holder will be used that will give each bloom the proper position, and then the whole will be placed to add beauty to your room — and give pleasure to all who pass. When you do this, you will have "arranged" your daffodils.

Perhaps a fine specimen is to be given the place of honor. Choose a suitable container — add a slightly taller piece of pine — or other non-competing greenery, enhance the proud pose and profile of that single flower and you will have an arrangement.

We have been taught that flower arranging is the art of organizing the elements used, according to the principles of design — and that the ultimate goal is to achieve “beauty, simplicity, expression, and harmony.” We believe that in most instances a simple design, one that emphasizes the charm of a few blossoms, has greater artistic merit for daffodil arrangement than a mass bouquet. On the other hand we have seen on a bride’s table, a large alabaster compote filled with Thalia and the result was exquisite. This variety, Silver Chimes or other of the *triandrus* hybrids with their graceful multiple (usually) flowers, may also be used as fillers with larger varieties or other plant material. The tazettas, Martha Washington or Geranium, could be used in the same manner, the results being a little more rigid in form and perhaps the color areas would have greater definition.

It has been a blessing perhaps, that few of our florists handle cut narcissus in variety. The arrangers prime aim is to present good and unusual material organized in a harmonious and distinctive manner. So with valuable cut daffodil varieties limited, they grow their own. This makes possible, season permitting, the use of material for planned daffodil arrangement.

In our own state of Maryland it was enlightening to find many well known arrangers thoughtfully identifying varieties in each division at the school for daffodil judges. They made note of those which appealed, with the avowed intentions of ordering these for fall planting. Come spring they cut the newly opened flower or well developed buds with care. Foliage, except from old or extensive plantings, is left untouched. A sharp blade, a slanting cut, a quick light motion down the stem to expel the sticky fluid, and the flowers are ready to be placed in tepid water in a cool dark room for at least twelve hours. Flowers cut when first open may be held for at least a week in a low temperature (48° F.). For arrangement they are groomed as for horticultural showing. A camel’s hair brush or a bit of damp cotton will make their faces sparkle.

Daffodils require little water when arranged and are charming in those difficult flat bowls. They show to great advantage when used in either traditional or modern Japanese styles. There are today books and pamphlets available with photographs and drawings. Substitute a daffodil for a similar form and reduce the scale to the variety used and yours can be a lovely design.

The grouping of stems so that they seem to be growing naturally and the use of a few flowers at various heights, some full face, others profile will give a happy result. The addition of a well balanced spray of foliage, fruit blossoms or flowering shrubs could reduce the number of daffodils needed, but make a charming picture. Place the branch first and establish a subtle pattern. Subtle? Yes, a definite flowing rhythmic line, but please, no line that looks bound in iron, at least, not for daffodils.

If you like forsythias and large trumpets together, try the lime to lemon colored daffodils, for example, the green yellow Grapefruit, Limone, or Mulatto with forsythia variety Spring Glory. Place these vertically or in an "S" curve. Try also willow, benzoin, or alder with catkins with your daffodils.

For those pinks, Mrs. Backhouse, Pink Glory and others, use a bright copper container and bronze or pink tinted foliage. These colors we find in *Pieris japonica*, *Mahonia aquilifolium*, and red maple in bud is lovely.

The use of all the whites is unlimited and those with green, yellow — or red cups — can provide exceptional interest and beauty in combination.

We have said little about the use of primroses and other spring flowers. All of these are compatible with daffodils and we feel can be contrasting or complementing to suit your fancy. You may handle your flowers in mass, or set apart a single fine specimen. Enjoy them, use your flowers indoors. A daffodil in a lovely vase is as compelling as one in the garden. Unforgettable to us was a Victorian epergne, overflowing with Cheerfulness, the small doubles resembling miniature roses. The white milk glass base of the epergne was piled high with golden kumquats and a few dark leaves for contrast. Two wonderful altar arrangements also come to mind, both in pairs. One lovely symmetrical pair was designed with massed Chinese White. Feathery evergreen elongated the pattern and the vases were of white pottery. The other pair was asymmetrical and the containers of fine old brass. Each held glossy leaves of *Magnolia grandiflora* against which were outlined seven Broughshane. Perhaps the white trumpet Mount Hood would substitute here, but the lily like handling of the arrangement was effective and the robustness of the varieties was valuable for this purpose. To the arranger these were mass arrangement.

A line-mass that comes to mind was also a wonderful study in texture. The crinkled faces of Milk and Cream were silhouetted against the leather-leaf virburnum (*Rhytidophyllum*). A piece of driftwood contributed to the design and accentuated the textures.

Even the avowed horticulturist should like the next one, a pure line design, which was the textural antithesis of the former. It consisted of just three magnificent Cantatrice, the top one just opening, which were placed in a plain white cylinder. The flowers seemed to have been sculptured with the poreclain, indeed were almost part of it.

For those of us who enjoy working with these flowers there are decorative arrangements, interpretive arrangements, indeed no limit to the field or fun. We know of one person who loves to arrange only small cups and owns a magnificent collection adding new ones each year. Others make fascinating compositions which feature Binkie, Peeping Tom, and other favorites.

The arranger of daffodils is gently led toward a specialized field of horticulture. Bulbs are ordered, planted and, though nurtured for arrangement, each person cherishes the secret hope to be able to produce that one flower, so fine that it can win in horticultural competition. If the season is right and the show date fortunate, if all the same problems that beset the experts are solved, the hope could be realized. Meanwhile there is less frustration for the arranger. Fine material does not have to be discarded. It can be placed to interest, and give pleasure to many when one makes "Designs with Daffodils."

Daffodils Preserved for Out-Of-Season Enjoyment

ELEANOR REED BOLTON, Fairfax, Virginia

CONVINCED, by touch, that the flowers were dry, one viewer of my dried daffodils said, "Do you dye them so that they look so natural?" Another, recognizing the variety, marvelled at the preservation of form as well as the soft, buttery yellow of Yellow Cheerfulness. On this occasion I wished that I had filled my bouquet with



Arrangement Featuring Dried Daffodils

by Eleanor Reed Bolton

Fermoy, Hades, Trevithian and a host of other varieties that, out of blooming season, are deceptively fresh-looking.

The use of dried daffodils is not limited to artistic arrangement, although that is the role which most of them are destined to play. By the processes described here, the preservation of size, form, color and pose of many types is sufficiently convincing for technical study when the bulbs are dormant in the ground. Examples of the divisions according to RHS classification can be set up for educational purposes and many varieties retain their identities in spite of the sacrifice of texture caused by dehydration.

No particular skill is required to dry daffodils successfully. The deft handling of the flowers and the discernment as to which kinds dry best are, naturally, acquired through practice. Yet, if the novice will start with those varieties which I consider foolproof, progression to more temperamental kinds will be an irresistible challenge.

Try the tazettas and small-flowered doubles first; then the small cups and jonquils. When you are as proud of these as you were of your first blue ribbon, it is time to do large cups and trumpets. To avoid the collapse of a long brittle trumpet or a wide flaring cup takes patience and practice, so the disappointments are fewer with the smaller flowers which are no less beautiful.

It is good for the stem of a fresh exhibition quality daffodil to be full of water; the opposite is better for one which is to be dried, because quick dehydration is desirable. Flower petals dry much faster than the water-filled stems and, for this reason, I recommend the substitution of a wire stem. The deception is not easy to detect when it is neatly wrapped with green corsage tape before placement in its display position. The natural characteristic of the flower will not be destroyed if the stem is cut just *below* the seed vessel. The wire (heavy 18-gauge for single-flowered varieties, and fine 24-gauge for the florets of cluster types) is inserted through the center of the cup or trumpet and made to come out through the seed vessel. Before the wire is drawn through for its full length, bend the upper end for about an inch so that it resembles a hairpin. Continue drawing the wire down through the capsule until the bent end penetrates the eye of the flower and becomes invisibly imbedded there. The length of wire is unimportant at this time, because it is easily shortened or lengthened later on. Do not wrap the wire until the drying process is completed.

The drying mixture most generally used is a blend of borax and sand, the best proportions being two parts of borax to one part of sand, by dry measure. If you purchase two 2-pound boxes of powdered laundry borax, fill one of the emptied boxes with sand for the quantity you will probably need. There is no deterioration in this mixture which can be used year after year.

There are alternative methods of placing flowers in the box with borax mixture but the one I prefer is here described. Punch holes in the bottom of a shallow (3-4" deep) cardboard box, spacing them to allow room for the diameter of the flowers. Place this box over a carton that is deep enough to accommodate the length of the wire stems. Sprinkle borax mixture over the bottom of the perforated box to a depth of $\frac{1}{4}$ to $\frac{1}{2}$ inch. Arrange the flowers in the box so that the wires are suspended into the lower carton and the perianth segments of the daffodils lie flat on the bottom of the upper box. Now, carefully add borax mixture until the flowers are completely covered and their cups well filled. Overlapping parts of the petals should be separated by a few grains of the mixture to preserve their dimension. Immediately label the box as to variety or type of flower, and the date. Do not put tazetta florets and large cups in the same box because their drying times differ. Small florets will be ready in two days if the atmosphere is dry, or in three days during a rainy season. Larger flowers will take three or four days. If left too long in the mixture, color will be bleached from them.

The small "foolproof" flowers will need no special coddling, although they should be kept dry and dust-free during the storage period. The larger flowers, on the other hand, are finicky and require storage that is absolutely dry. To protect them from the devastating effects of our well-known Washington humidity, I scatter a handful of dehydrating crystals (Dryrox, available from Dryrox, Inc., 2800 Beauchamp, Houston 9, Texas) over the bottom of the storage box. The box should then be given an airtight seal. Because I like to see and show off my dried flowers at all seasons, I wrap my boxes, without lids, in Saran Wrap which is transparent and seals itself.

A soft padding of cotton or shredded waxed paper in the bottom of the storage box is good insurance against damage, for dried flowers are brittle and easily broken. Bend each wire stem so that seed vessels and flowers are at right angles to them, according to their

natural habit. When placed in the storage box, flowers will be face-up.

Uncovered wires in a display of dried daffodils would constitute as grave a fault as a fresh horticultural specimen on the show table with muddied petals or sun-scorched cup. Condition and grooming are no less important here. Green rubberized corsage tape can be obtained from your florist. It stretches as it is wound around the wire for a smooth covering. If additional stem length is desired, the longer wire, running parallel for an inch or so to the original stem wire, can be bound to it in one operation with the wrapping of the stem. A soft sable or camel's hair brush will free the flowers of any lingering particles of the borax mixture. Wrap the thin wires of small florets with split widths of corsage tape; then bind them to a stronger main-stem wire with the full 1/2-inch width of tape to resemble the original position on the natural stem.

Whether you are a 100% grower-only or an avid creator of artistic arrangements, I hope that you may reap the rewards, as I have, of year-round enjoyment of our special flower, the daffodil.

EDITOR'S NOTE: Mrs. Bolton's new book *Dried Flowers with a Fresh Look* is being published by D. Van Nostrand this fall. Readers caring to go more deeply into this subject should refer to it.

Round Robin Department

MRS. E. G. SAWYERS, Oklahoma City, Oklahoma
Round Robin Chairman, American Daffodil Society

OUR group seems to grow a little each year. Now we have six Round Robin groups. Dr. Helen Scorgie is the director for the miniature one and also is the director for the No. 1 General. Dr. Glenn Dooley is director for the Men's Round Robin. Mrs. Laura Bradbury is directing two for the Northwest and West and a No. 2. General.

Those of you who do not belong to one of these are missing a lot of fun and good information for we exchange ideas about planting, the varieties to plant, how they perform in our particular region and all sorts of information.

We need more directors. This is not a hard job. The directors are just responsible for the letters getting around to each member.

Daffodils in Pots

MRS. WEBSTER BARNES, Aberdeen, Maryland
Chairman, Special Uses Committee

FORCING daffodil bulbs is within the realm of possibility for everyone and can give untold pleasure. A pot of blooming flowers which one has tended for weeks is in the same category as a handmade Christmas gift. The recipient of a pot of flowering daffodils, grown by the giver, should feel extremely honored. Gay pots of flowers during the winter months are a heartening reassurance of the return of nature's sunshine and warmth.

This particular aspect of the special uses of daffodils is timely, for the earlier the bulbs are potted the sooner they may be brought into the house, thus providing a sequence of bloom from early January until the outdoor show takes over.

Because directions for forcing bulbs are to be found in all the do-it-yourself books, I am not going into detailed procedure, rather a few suggestions, in the hope that more amateurs will feel the urge to try their luck. Luck will smile on the rankest amateur if only the best bulbs are planted and if the pots are not brought into the house until roots are visible through the hole in the bottom of the pot. These are the prime requisites for success.

Conservatories and greenhouses are the place for large bulb pans, suitable for trumpet and large cup varieties, which do not lend themselves to the dimensions of present day living rooms and small dining room tables. There is more pleasure in forcing small flowering varieties and miniatures in pots which will fit into favorite containers. For indoor decoration the old rule of thumb, one and a half times the width of the container should equal the height, is always pleasing; hence my preference for such varieties as *Narcissus obvallaris*, Beryl and W. P. Milner. Ample drainage is essential and long experience has proven that best results are obtained when the nose of the bulb is not covered, but allowed to ride high in the pot. A cold frame is the ideal place to store the planted pots, but an areaway about a basement window will serve the same purpose. Extra care must be taken to prevent mouse damage; hardware cloth fitted securely over the opening of the areaway will do the job.

Another method for forcing root growth is simply to bury the pots in a trench in the ground, heaping salt hay or some other insulating material over the filled-in trench, to insure easy digging after the ground freezes.

Apartment dwellers will find a refrigerator a good medium for promoting root growth. The housewife and gardener will have to determine the amount of space available for this horticultural project since the bulb pots should be on a lower shelf of the refrigerator for six to eight weeks. Bulbs started in the refrigerator have the advantage of being so conditioned that they can go directly into strong light without any transition period.

For those gardeners who do not have greenhouses, a sun porch or unused guest room where the temperature can be kept cool, not over sixty degrees, is ideal for gradual forcing. When daffodils are forced slowly, the foliage is stouter, not as tall and the flowers last longer. After the plants have come into bloom the pots can be returned to these quarters at night so they will last longer than if left in overheated living rooms. If bulbs are carefully handled they may be planted in the garden to flower the next year. Try forcing a variety which is new to you and realize the pleasure of being able to study it in detail as it reaches maturity.

Planters can be made more attractive by the addition of pots of flowering daffodils. Due to their location which is often away from sunlight, in a draft, and in a hot dry atmosphere, creditable bloom cannot be forced in modern living quarters. By keeping a succession of blooming pots coming along, however, a handsome display may be had at all times.

Exterior window boxes which are often windswept due to their exposed location are not suitable for the actual forcing. They freeze readily and this retards the desired growth. Nevertheless pots of blooming flowers can be introduced for special occasions, such as an early Easter or a gala event.

For a group keen about forcing daffodils, bulbs of the same variety might be grown in competition for a definite date or a number of varieties might be distributed for a succession of bloom. An interesting and rewarding project would be to grow them for patients in a hospital or nursing home. Think of the pleasure of taking February Gold or March Sunshine to some one who is shut in!

Summer Mulches of Daffodil Beds

MRS. FRANK G. HARMON, Dallas, Texas

THE weather in Texas during the months of July and August presents a serious and definite problem for daffodil fanciers. When the thermometer registers 110 degrees, and often stands at 104 for a week or more at a time, and there is little or no rainfall, it is imperative that daffodil beds be mulched if you wish to save your fine bulbs.

A method that has been tried and proven is to mulch the beds as soon as the daffodil foliage has faded and been plucked. As soon as the foliage has been plucked, the soil should be mounded up around the bulb. A first mulch is then applied, and in Texas this is usually done in the latter part of May. For this mulch you should use a covering of one third peat moss, one third compost or leaf mould, and one third sandy loam, with a little bone meal added for good measure. Then scatter this evenly over your beds, making a covering of about two or three inches in depth. Take care to see that the name labels of your bulbs are not covered or disturbed. Then start your sprinklers to settle this covering down. Unless a stray weed appears you may forget your bulbs until the last week or ten days of July, for during this period your bulbs are resting comfortably in the "air conditioned" home you have made for them.

About the last week in July, use a second covering of compost or leaf mould, together with peat moss, this time without the sandy loam. This second covering is not watered down, as your bulbs are really resting now and this period of drying off is good for them. It is only placed on your beds as a protective covering to keep the ground cool and the soil from cracking from the heat and drouth.

If no rain comes in early September, I start my sprinklers going and give my beds a good soaking once every two weeks, and this is enough moisture to start root growth early enough to make strong plants. It is not enough moisture to make the bulbs rot from the intense heat.

I find, after 25 years of growing daffodils just for the beauty of them in my garden and home, that the bulbs need this drying

off period, or resting period, however you may wish to call it. With this method of mulching, the bulbs may not always multiply, but it is certainly one method of saving your bulbs, and in a planting like this they can be carried for three years without lifting or dividing. It saves your bulbs, it saves water, and it saves weeding the beds.

The peat moss, the compost, the bone meal and sandy loam are all excellent nourishment for the beds, and the last layer of leaf mould or compost could even be the leaves you raked from your lawn last November, for it is only a light covering, and the sun will dry them so quickly that they soon become a part of the soil. In September the new root growth starts in Texas, so watering must then be done until the fall rains begin.

Another method of bringing bulbs through this season in the Southwest, is to plant your bulbs among the border beds under the shade of high trimmed trees, or the covering of the day lilies that are planted in the borders. These beds are not mulched, for the watering of day lilies is withheld about the same period of time that the daffodil bulbs need to rest. The shade of the flowering shrubs in the background and the tall trees, help to keep the ground cool. The daffodil bulbs are the old dependable ones that come back year after year and can fend for themselves.

Growing right up against privet hedges *N. tazetta* will bloom before Christmas, and big arrangements can be given as Christmas gifts to your friends. You may have to raise those old "paper whites" in the house in the Northeastern part of the U. S., but in the Southwest established plantings bloom in December. February Gold blooms in January, and March Sunshine in February. The name of the month may be wrong for the Southwest but this does not detract from the loveliness of the flowers, and the bulbs multiply just as well.

Among the dependable trumpets that can take the heat are Fortune, Emperor, Unsurpassable, Beersheba, and Mrs. Backhouse. The Duke of Windsor, Thalia, Shot Silk, Silver Chimes, Trevithian, Tunis, Cragford, Laurens Koster, Dactyl and Actaea can take the weather and come through all right, with complete neglect. Perhaps, because the native home of the *tazetta* group was one of heat and semi-drouth, they do exceptionally well in the Southwest, and the *poeticus* also, if planted in semi-shade and not disturbed. The jonquils multiply freely and *triandrus* hybrids like this drying off

period also. The feeding for these old dependables is a slight dusting of wood ashes in November and December, and bone meal when the shrubs are fed. These are lifted and divided every three years, and then a good feeding is given, but the bulbs are never left to dry in the sun, but should be left in the garage until they separate easily. Usually three or four days in the dry shade and air of the garage will do the trick. They are then replanted in late May, and not in late September as are the new bulbs purchased. They are then watered down and left to wait until the drying period is over. The bulbs are better off in the ground, than they would be hanging in mesh bags in the garage or basement.

The life cycle of a bulb demands a period of dormancy, and the climate of Texas certainly insures this.

A NEW DAFFODIL BOOK THIS SPRING

ABOUT the time your bulbs are blooming there will appear on bookdealers shelves the first modern American book dealing exclusively with daffodils, and it has been written by none other than our own Carey Quinn, first president of the American Daffodil Society. The manuscript is now in the hands of the publisher, Hearthside Press, but your Managing Editor managed to get a few peeks at it before it was shipped off. In Carey Quinn's own inimitable style he deals with all the aspects of the subject, varieties, classical and new, growing, exhibitions, forcing, keeping diseases away, and daring to offer suggestions as to how they might be shown off in vases in the home. The book is aimed towards the amateur enthusiast, whether he be a novice or an old hand at the matter, rather than towards the botanist or professional horticulturalist, but anyone interested in flower growing in any of its aspects should find the book a must. All the books currently in print on daffodils come from Britain, and deal with the subject with their favorable climatic conditions in mind. Not since Kirby brought out his slim volume in 1909 has anyone written on the subject from an American point of view, and taken into consideration our widely divergent growing areas. Photographs? Yes, aplenty. Title? Not decided yet.

C. R. P.

The Forcing of Daffodils

BILL VAN LEEUWEN, WARNAAR & Co. N.V., Sassenheim - Holland

THE forcing of daffodils during the winter is great fun. It requires very little work and this is amply rewarded when one has these lovely spring flowers in bloom during the dark and dreary months of winter. The most ideal place to force daffodils is, of course, a small greenhouse or conservatory, but in any cool room in the house which has plenty of light, it can also be done very successfully.

In order to have the best success, the following simple rules must be observed:

1. Obtain your bulbs early in September, and store them in a cool place till about October 1st. A basement or cellar where the temperature does not much exceed 60 degrees Fahrenheit is ideal. Should outside temperatures still be high in early October it is better to delay planting until the outside temperatures are cooler.
2. Almost any type of pot or wooden box may be used. The most ideal is an 8" pot or box, and which will hold 5 or 6 good sized double nosed bulbs. Pots or boxes should be about 5-6" deep. Be sure that your pots and boxes have a hole in the bottom for good drainage. Old pots are to be preferred.
3. Fill pots or boxes about $\frac{3}{4}$ full of soil or sand. Almost any type of soil, with the exception perhaps of very heavy clay, may be used for this purpose. No fertilizer or nutrition, except water, is required. Your bulbs have a well developed bud inside them already, and the bulb has sufficient reserves to bring it into bloom. Plant bulbs fairly close together, put some more soil in between the bulbs after planting, up to the rim of the pot or box. The tops of the bulbs will be well above the pots but that does not matter at all. If you should plant your bulbs deeper, there would not be enough room to make roots, and daffodils can make a lot of roots.
4. Once the pots are planted, water them well, let them remain where they are overnight, and water well again the next day. The next thing to do is to dig a small trench in which the planted pots should be placed, and be sure that the bottom of this trench is level as the pots must stand upright. The depth of this trench should be such that after you have put in the

planted pots, these can be covered with about 8" of soil. These trenches should be dug in the coolest place in the garden as bulbs, once they are planted, do not like warmth until they are brought inside for forcing. In case of a very dry autumn, a good soaking once a week will be fine. In order to keep the heat out of the trench, a good heavy cover of straw or leaves is ideal. This is a must once it starts freezing. Unless you do this, it will be impossible to take the pots out of the trench as the soil would be frozen too hard.

5. Bulbs should remain buried in the trench for about ten weeks, and must never be brought in a greenhouse or a cool room until the buds are about 3" high. Once this stage is reached they may be taken out of the ground and brought inside. They must then be placed in a light place where for the first two weeks the temperatures should range around 55 degrees Fahrenheit. After the first two weeks, the temperature may be raised to about 60 degrees Fahrenheit which is the ideal temperature to bring them into bloom, provided the buds are well developed when brought inside. The time to get them into bloom is about four weeks. Once in flower, or just prior to flowering, they may be brought into the living room. After bringing your bulbs in from outside be sure that the soil is kept sufficiently moist. A light watering almost daily is essential. Be very sure your soil never gets really dry in which case the roots will die. One more thing not to forget is that you must never place pots or boxes over radiators or pipes. As we say in Holland "Daffodils do not like bottom heat."

And that is about all there is to it. Provided you get the right varieties, you should have little or no trouble in getting nice flowers. Not all varieties are suitable for forcing, and I recommend the following:

- | | |
|--------------------|-------------------|
| 3b Amateur | 1a Golden Harvest |
| 2a Better Times | 2a Hollywood |
| 2b Brunswick | 3b La Riante |
| 2a California | 2b Mercato |
| 2a Carlton | 1b Patria |
| 8 Cragford | 6a Peeping Tom |
| 8 Early Perfection | 1a Rembrandt |
| 3a Edward Buxton | 2b Tropic Star |
| 6a February Gold | 1a Unsurpassable |
| 2a Fortune | 3b Verger |

Narcissus Enemies and The Plant Quarantine Laws

PIERCE TIMMIS, West Wardsboro, Vermont
Health and Culture Committee

BULBS imported from one state to another or from a foreign country rarely prove to be unhealthy. Nowadays we take healthy bulbs for granted, but it has not always been possible to do so. The groundwork for this confidence was laid when Congress passed the Plant Quarantine Act which became law on Aug. 20, 1912, and effective Oct. 1, 1912. The preamble of the Act reads as follows:

“An Act to regulate the importation of nursery stock and other plant products; to enable the Secretary of Agriculture to establish and maintain quarantine districts for plant disease and insect pests; to permit and regulate the movement of fruits, plants, and vegetables therefrom, and for other purposes.”

The Act in its various sections spells out the wide powers and responsibilities of the Secretary. In March 1913, an amendment was made to permit the Department of Agriculture to import, for its own use for experimental or scientific purposes “any class of nursery stock or any other class of plants, fruits, etc. of which the importation may be forbidden from any country or locality.” This provision enabled the Department to carry on research on pests that had not yet gained a foothold in this country, the better to provide for their interception.

We may now scan those regulations that affected the narcissus directly, but to get proper setting we should go back a few years. Prior to 1926 the bulb growing industries in several European countries, notably England, France and Holland and even in far-away Australia, had been plagued with one or more of three chief narcissus pests namely; the narcissus bulb fly (*Lampetia esquestris* F.), the lesser bulb fly (*Eumerus tuberculatus* Rond.), and the bulb or stem nematode or eelworm (*Ditylenchus dipsaci* (Kühn) Filipjev). In some places the onslaught was so great as to threaten the very existence of commercial narcissus culture. In this country the narcissus bulb fly was recorded as first being found in a garden in Brookline, Mass., in 1879. From then on with increasing fre-

quency interceptions were made in many States and across the border in Canada. Widely distributed though it was, it was not thought to have become established throughout the country.

There is some doubt as to when the lesser bulb fly was first observed here. It is a more recent immigrant than the narcissus bulb fly, and seems to have established itself chiefly in the Eastern and Western coastal States.

The bulb or stem eelworm is probably the newest of all three pests to arrive here, having first been detected on rye in Kansas in 1907. While no survey had been made to determine its distribution in this country prior to the imposition of the 1926 quarantine, it was known to be wide and a real threat to the narcissus.

While several plant quarantine conferences had been held by the Department beginning in 1918, bulbs had not received special attention. However, they were considered in detail in a conference, with importers, called by the Department and held Oct. 30, 1922. As a result of that conference the Department announced on Dec. 22, 1922, that the unlimited entry of narcissus bulbs would be authorized for a period not to exceed 3 years, beginning Jan. 1, 1923. In making this announcement the Department stated "Information derived through inspection of import shipments since 1919, indicates that there is a considerable element of danger in such importations in that they carry insect pests, the risk of the establishment of which in this country cannot be entirely eliminated by inspection and disinfection. * * * * Continuanace of this risk through such imports is, therefore, only justified for such reasonable time as may be required to establish the commercial production of the several important species of bulbs in this country." The principal pests responsible for this conclusion were the three already mentioned.

On Nov. 16, 1925, another public conference was held for the full consideration of the bulb subject. After careful study of the facts developed at this conference it was publicly announced that the restrictions on the entry of narcissus bulbs authorized three years previously would go into effect Jan. 1, 1926. At this time the Department held the opinion that none of the three pests was so well established that it could not be controlled or entirely eradicated. The districts concerned promised to clean up, and the Department insisted that it be done at the earliest possible date.

When Jan. 1, 1926 came the quarantine was put into effect, restricting the entry of narcissus bulbs to such importations as were

necessary for propagation, for the introduction of new varieties, or for any necessary experimental or scientific purposes. All such stock was to receive sterilization by hot water treatment for 2½ hours at 110-111.5° F.

In July of the same year the Secretary also imposed a quarantine on each and every state of Continental U.S.A. and the District of Columbia, to prevent the spread of the three pests. This was Notice of Quarantine No. 62, effective July 15, 1926.

These regulations had far-reaching effects not only on the importers of foreign bulbs, but also on domestic growers whose fields and crops were now subject to inspection and who now had to set up treatment plants, operate them and keep records. Domestic growers however, had some compensation for their trouble and increased costs in that competition from foreign growers was now reduced to a minimum.

During the next five years the gathering of data pertinent to narcissus pests went on and as new facts came to light it became evident that the situation was changing and should be reviewed. As a result the Department called a conference which was held on Jan. 29, 1931, "to review the plant pest situation with respect to narcissus bulbs and to consider the advisability of modifying restrictions on the entry from foreign countries and the interstate movement of bulbs."

Evidence presented at the conference showed that the eelworm was now cosmopolitan in distribution and was on record as occurring in 32 states. The record of field inspections made in 1933, resulted in finding the bulb eelworm in commercial narcissus planting in 15 states which comprise for the most part the principal narcissus producing areas. The Greater Bulb Fly had been found in 12 states, and the field inspection made in 1933 revealed its presence in commercial narcissus plantings in eight states.

More recent information showed that the lesser bulb fly was not the important pest it was believed to be and as a consequence in the administration of Quarantine No. 62 it was now disregarded. Furthermore it was found that the bulb eelworm and the narcissus bulb fly arrived from foreign countries in a variety of bulbs which are admitted in unlimited quantities under Regulation 3, of Quarantine No. 37.

The conclusion was drawn that if the present restrictions on narcissus bulbs were to be continued they should be applied with

equal force to all other bulbs and plants known to be hosts of these two pests. However in view of the wide distribution of these pests in the U.S.A. and the hopelessness of their eradication, this action was held to be unsound from a plant quarantine standpoint. The opportunity of eradication had passed, moreover pests equally as important, if not more so, than the ones in question were now widely distributed in this country.

In view of these conditions the unlimited entry of narcissus bulbs under permit and subject to inspection beginning Dec. 15, 1936 was authorized by the Department. Inspections at the time of packing and at ports of entry were made mandatory to prevent this country becoming the dumping ground for diseased or infected bulbs. The effective date was deferred for two years for the purpose of permitting those adjustments made necessary by the removal of the restrictions.

At the same time Domestic Quarantine No. 62 issued July 3, 1926 was revoked effective April 1, 1935. This action left to the interested states freedom of action in the establishment of such restrictions as they deemed advisable. The writer, in an effort to gain a general idea of what the states did following this revocation, sent in 1957, a short questionnaire to the three states having the largest bulb growing industries, namely Oregon, Washington and Virginia. The gist of their replies follows:

The State of Oregon Department of Agriculture, Division of Plant Industry, reported that there is a total of about 300 acres devoted to the raising of narcissus bulbs. State Quarantine Order No. 54 (Series A, effective Dec. 10, 1946), established a quarantine "prohibiting the shipment into the State of Oregon or within the State of Oregon, of all bulbs of the genus *Narcissus* except in compliance with the rules and regulations issued by the Department of Agriculture." The quarantine was directed against the bulb nematode.

The regulations require inspection of fields during the growing season and the treatment of all bulbs found to be infected with nematodes. Treatment consists of regular hot water treatment with a pre-soak in formalin solution at a temperature of 70° F. The pre-soak requirement is modified if the hot water treatment has been given within 30 days of digging.

With regard to the admission of narcissus bulbs from any source outside the U.S.A. for propagation or distribution within the State

of Oregon, Regulation 3 requires that bulbs found to be infested shall be given the hot water treatment immediately, or if no nematodes are found, permission will be given to plant under quarantine until the regular field inspection and thereafter treated as any other bulbs grown in the state. The Department in its letter notes that bulb production in the state is decreasing and that it is planned to rescind the quarantine order in the near future.

In the commonwealth of Virginia the Department of Agriculture and Immigration, Division of Plant Industry, estimates that there are about 20 people growing narcissus in a commercial way and that an acreage of about 200 is devoted to this enterprise. The reply further states, "Virginia does not require daffodil inspections as daffodils are not considered nursery stock. Several states, however, request that bulbs upon entry be certified free of bulb nematode, bulb fly and excessive basal rot. Each year applications are received from Virginia growers for inspection to meet these requirements. To issue a certificate of health recognized by other states, field inspections of the growing plants and a bin inspection of the bulbs after they are lifted and cleaned is necessary and required."

In the State of Washington the production and sale of narcissus bulbs is about 12,500,000 per year. This is exclusive of some occasional planting stock sales when computation is usually by weight instead of bulb count.

The Department of Agriculture, Division of Horticulture, Order No. 5 (Order No. 479) pertains to the narcissus bulb nematode and became effective Sept. 30, 1946. The regulations in this order are almost identical in wording with those adopted by the state of Oregon so they will not be repeated.

Though no other states have been questioned it is fair to assume that if there is an important narcissus growing industry either the state will have adopted quarantine regulations or the growers through their organizations will have taken such steps as are necessary to protect their reputation and to insure a market in other states.

This closes our review of the plant quarantine laws and regulations as they presently affect the narcissus, but it gives little idea of the enormous amount of research performed by the U.S.D.A. and others in studying the habits and spread of the numerous pests before intelligent quarantine regulations could be formulated and techniques developed for carrying them out. We owe a great debt to all

who have had a part in safeguarding the health of narcissus and in encouraging the growth of this ornamental.

The material for this article was taken chiefly from the U.S.D.A. Service and Regulatory Announcements for July-September, 1926 and January-March, 1935, and also from the Virginia Truck Experiment Station Bulletin, July 1927.

The writer is indebted to Mr. Willis H. Wheeler for making these and many other bulletins available and for his advice during the preparation of the article.

EDITOR'S NOTE—While narcissus bulbs are no longer prohibited entry, the importer is required to secure a permit by writing to the Plant Quarantine Division, 209 River Street, Hoboken, New Jersey.

DAFFODILS BEHIND THE IRON CURTAIN

A RECENT issue of a scientific publication from the Institute of Botany of the Azerbaidjan S.S.R. Academy of Sciences devotes thirty pages to an account of a daffodil testing project in the Botanical Garden of the Institute at Baku. Baku is located on the Apsheron Peninsula, on the west side of the Caspian Sea, not far north of the border with Iran. It lies at about 41 degrees north latitude, the same as Philadelphia, but the climate is humid, subtropical, perhaps similar to parts of our southeastern coastal region.

Over a ten-year period 105 varieties were tested to determine those most suitable for ornamental plantings in cities and villages, and for forcing. The 35 recommended varieties were as follows: Division 1: Golden Spur, King Alfred, Mrs. E. H. Krelage, and No. 48181; Division 2: Southern Gem, and five numbered varieties; Division 3: Albatross, Brillancy, Firetail, Seagull, Fairy Queen; Division 4: Orange Phoenix, Sulphur Phoenix; Division 8: Gloriosus, Grande Monarque, Paper White, *N. tazetta* var. *panizzianus*, Orange Cup, Aspasia, Early Perfection, Elvira, Leonie, Cheerfulness, and three numbered varieties; Division 9: Juliet, Horace, Dante, and two numbered varieties. The varieties under number are unidentified varieties from various sources and do not indicate a breeding program.

The blooming period is from February to May, with the tazettas coming first, and the other types in the order familiar to us. Yield was very good, with tazettas (not hybrids) leading in increase. The 14 illustrations show the planting in beds, a mixed bouquet, and 12 of the recommended varieties in vases.

R. C. W.

Basal Rot--Again or Yet

FREEMAN WEISS, Washington, D. C.

EVEN when so authoritative a person as the Editor of ADS says there is need for another article on basal rot you are a little incredulous. So much has been written on the subject in daffodil literature, and retold in meetings of daffodil growers, in all the 30 years since this disease came into prominence along with the first attempts to establish commercial daffodil culture in this country. Furthermore, there has been no important research on basal rot since the U. S. Plant Industry Station at Beltsville, Maryland suspended action on this project some 5 years ago. Finally, Charley Gould, of the Western Washington Agricultural Experiment Station expertly summarized what is known about basal rot, including its control, in the Manual of Bulb Growing and Forcing which was published only a year ago. But Charley has been living for the last 10 years in the Pacific Northwest, where they don't have much basal rot, and before that in Iowa, where they don't have many daffodils as yet. Perhaps he hasn't the feel for this problem that a daffodil grower of the Middle Atlantic and Southeastern regions, who must live with it constantly, has.

There may have been confusion at times in identifying basal rot, and control measures directed against this disease might have failed against others of different causation. Basal rot is a specific disease caused by one kind, or species, of the fungus *Fusarium*. This does not mean, however, that all the millions of spores of this fungus, when they infect daffodil bulbs, are equally virulent and will cause a disease having always identical symptoms. Variation always occurs among individual living organisms, and it is highly probable that races or strains of the basal rot fungus, differing in their capacity to infect daffodils, come into being and wax or wane in different localities and at different times. In fact they may well build up virulence by repeated infection—a general phenomenon among parasites — so that a particular variety or stock of daffodils which has become, say a third or half infected with this disease, may carry a strain of the fungus of exceptional disease-producing power and correspondingly more difficult to control. This could explain the failures at times of the ordinarily successful control methods to cope with basal rot.

Then there are altogether different kinds of bulb rots, for example, a "soft" rot that characteristically follows sunburn from exposure of bulbs to intense sunlight or hot soil during digging operations. There are dry scale rots that regularly consume the old bulb scales, which are shed as new scales develop from within but may, if the bulbs are dug too green or are bruised and cut in digging, infect the living scales too. These bulb rots are not basal rot, and require different methods of prevention.

Fusarium of daffodils, though perhaps not ordinarily an inhabitant of field soil except when introduced by planting infected bulbs, is still very much a question mark as to its existence apart from this host. We do not really know where it comes from, or on what other plants it may live. We do know that it can live a long time in the soil apart from crops of daffodils once it has been introduced. That is why rotation of daffodil plantings is so important, especially in commercial bulb production. Experience has shown that, following removal of a crop of daffodils showing any evidence of basal rot, the ground should not be used again for narcissus until 3 years in other crops — preferably not bulbs of any kind — have elapsed. It is true that the daffodil *Fusarium* appears distinct from its close relatives that infect bulbous iris, tulips, gladiolus, etc. but it would be better to use only perennial grass or leguminous crops (such as vetch or clover) which are not commonly attacked by any *Fusarium*, in rotation with daffodils.

We know, too, that species of *Fusarium* are resistant to the soil fungicides such as bluestone, sulfur, Terraclor, etc. that are sometimes used to combat soil infestation by other parasitic fungi. *Fusarium* species are susceptible to soil disinfectants such as chloropicrin, methyl bromide, and Vapam, but the use of these chemicals to treat soil is laborious, expensive and sometimes hazardous, to be resorted to only when it is essential to fit the ground for immediate re-use. Ordinarily it is better to wait the fungus out, or weaken it by growing only *Fusarium*-resistant crops.

The basal rot *Fusarium* invades bulbs through the dying roots as the plants mature. Perhaps at times it enters the bulbs through the dying foliage, through lesions in the neck caused by insects and nematodes, or directly through the scales as the bulb splits and produces offsets. The root path of entry is by far the most common. The longer the bulbs remain in the ground after growth ceases, and roots and foliage decline, the more they are exposed to

basal rot infection. Furthermore, the later and warmer the season of bulb digging becomes, the more basal rot is favored. In areas that are especially subject to basal rot, it is advantageous to dig bulbs as early as possible, even before the leaves fully ripen, provided that enough care is exercised to avoid sunburn and bruising of the bulbs which can lead to other kinds of rot.

Once out of the ground the bulbs must be handled promptly to prevent the fungus from getting inside via the root portals. The quicker the roots can be dried so that they can be stripped off without tearing the bulb, the better. This requires placing the bulbs in shallow layers in trays (or on the ground if in shade) and in any case with free circulation of air all around. Some growers prefer to wash the bulbs free of soil at this stage, thus hastening the cleaning operation. This must be done with clean running water, not by immersion in a tank, and washing must be followed by treatment with a disinfectant and prompt drying, otherwise it can promote basal rot instead of reducing it.

It is now a general practice in commercial daffodil production when basal rot prevails, to disinfect the bulbs before replanting or during summer storage out of the ground. The chemical phenyl mercuric acetate (PMA) has become the preferred material for this purpose, as it is quick acting, effective in very high dilutions, and does not cause the injury to flowers that is a hazard with some other mercury compounds. This compound is available in commercial preparations ranging from Mersolite, a wettable powder containing 96.5 percent of PMA, to various solutions containing 10 to 40 percent of the chemical. The powder forms are considered superior because of longer residual action on the bulbs. The essential thing is to have a concentration of about 1 part of PMA in 4,000 in the treating solution. This can be computed for any product containing PMA (such as Hydromix, Liquiphene, Orchard Mercury Spray, PMAS, Quicksan) by taking the initial concentration and adding enough water to reduce it to 1 in 4,000. For Mersolite-W this requires 1 pound in 500 gallons, or 1 ounce in about 30 gallons. Actually, if basal rot infection is light, say one bulb in 20 and the bulbs are clean, the concentration of PMA may vary from 1 ounce in 30 gallons to 1 in 40 without materially affecting the results.

It is important, however, that the efficiency of the chemical should not be depleted by excess of dirt in the solution or by contact with

metals that interact with mercury. Use preferably a wood or crockery vessel (aluminum may be used or enameled ironware if free from exposed metal) but avoid plain or galvanized iron, or anything coated with lead paint. The liquid should be stirred frequently to keep the powder (if that form is used) in suspension. Use loose mesh bags or splint baskets to hold the bulbs. After treating two or three batches of bulbs, add water to restore the original volume and $\frac{1}{4}$ ounce of Mersolite for each 30 gallons, or add fresh 1:4,000 PMA solution to make up the initial volume. Repeat this after each 2 or 3 batches are treated, and in any case discard the solution at the end of a day, starting with a fresh mix next time.

The treating time for each batch need be only long enough to wet the bulb scales and roots thoroughly. Two or three minutes is enough for bulbs that are fairly clean; the time of immersion should not exceed 5 minutes in any case. The treated bulbs may be replanted promptly, after draining enough to make handling convenient, or may be placed in trays or baskets to dry and to be stored until fall. The post-digging treatment may be given right after removal of the bulbs from the ground or after not more than 3 days of preliminary drying. A post-storage treatment may be given in the same way if the earlier treatment has been omitted or if basal rot develops during storage.

Phenyl mercuric acetate, like most mercury compounds, is poisonous and must be handled with care. Internal contact can be very dangerous. Prolonged skin contact may be hazardous, too, therefore heavy rubber gloves should be worn if one has many bulbs to treat. If only a few small lots are to be handled that precaution can be omitted if the hands are washed immediately after each contact with the solution. Treated bulbs, after drying, are safe to handle, but "better be safe than sorry" is a good rule in any event when using a mercury product.

Other mercury compounds than PMA, such as Semesan, Ceresan, and New Ceresan have been used to prevent basal rot, but PMA is the material of choice. Non-mercury products have also been tried, and by some recommended. These have included Captan (a fungicide commonly used against foliage diseases, such as apple scab) and isopropyl (rubbing) alcohol, which can be bought at any drug store. I have had no experience with them. PMA, and especially Mersolite, is worth some effort to obtain.

Re Latin Plurals

CHARLES R. PHILLIPS, Frederick, Maryland
Managing Editor, American Daffodil Society Yearbook

OUR members and readers should be warned that your present yearbook Managing Editor was the former President, Vice President, Secretary, and Treasurer of "The Society for the Prevention of the Use of the Latin Plural for Narcissus — or the Use of Narcissuses Either for That Matter." As a matter of fact, he still fills all of these offices and is at the present time the single dues-paying member of that organization. However, having now achieved a position of some authority, he is fully prepared to exploit this new-found power to further the aims of TSPULPN-UNETM. Latin plurals must go!

Your editor feels that he is not acting as an irresponsible, wild-eyed crusader in this matter, but as a benevolent and kindly despot who will bring order, tranquility and peace of mind to the troubled members of our American Daffodil Society who obviously suffer greatly when attempting to speak of their favorite flower.

The reasons for this position are simple. Narcissi is both awkward and confusing and narcissuses is entirely too much of a tongue twister. Why not narcissus for both singular and plural? This would place no strain on the English language. For centuries it has permitted the same singular and plural use for sheep and deer, apparently without causing utter confusion to either farmers or sportsmen. Surely horticulturists can take one narcissus and a dozen narcissus in their stride and not revert to total uncommunicativeness.

What started all this business anyhow? We really have that wise old gentleman to blame, Carl von Linné, who was so enamored with Latin as the universal language that he not only bestowed Latin names on all the plants he was cataloging and systemizing but even Latinized himself to Linnaeus. Botanists could and did follow his strict Latin terminology because they found it necessary when discussing some plant which had at least as many common names as there were countries in which it was grown. Surely, though, not even Linnaeus intended that the common folk, which includes gardeners, in all the countries involved should have to practice up on their Latin in order to chat with one another over the back fence

about how their flowers were coming along. Rose never changed in common-day English speech to *rosa*, nor roses to *rosae*.

But then into this nice ordered world with two sets of standards, one for the botanists and the other for us gardeners, crept confusion. Plant explorers traveled afar and brought back flowering plants from distant lands without ever bothering to find out what common names the Ubangis, Aztecs or other natives had given them. On these plants were bestowed nice new shiny Latin names, and under these names they were introduced to us to grow in our gardens. Hence petunia, geranium, begonia, chrysanthemum and a host of others with no English names.

And what of the poor people who grew these flowers for which the Latin name was also the common name? Most of them merely used the regular Latin name in the singular and formed the plural as they would the plural of any other word in their language. Thus we talk of camellias and rhododendrons and not a single soul accuses us of being uneducated because we do not say *camelliae* or *rhododendra*. Only those of us who cultivated flowers having Latin masculine names ending in "us," which just won't pluralize in English without a stutter, suffered. We were stuck it seemed with our *gladioli*, *cacti* and *narcissi*. And what does all this prove? That we were a much more cultured breed of folk than those who raised dahlias or asters? Hardly. Or that we were much more erudite than those who grow clematis, iris or phlox and make no effort to pluralize? Can it be that the only thing we remember of our Latin declensions is that masculine nouns change from -us to -i in the plural and that we have forgotten the plurals of all other forms? We contend that all this attempt to form Latin plurals only serves to prove how old we are, since obviously we must have attended high school in that long, long time ago when they still taught Latin there.

There is, of course, a coward's way out. One can always attempt to avoid the subject of Latin plurals and talk about "glads" (ugh!) or, in our case, daffodils, but every once in a while one must squarely face the issue. What are you going to call those things that you buy in the fall and place in bowls with pebbles and water to give you sweet-scented blooms at Christmas time? Nobody has ever called *Narcissus tazetta* a daffodil, and not even Southerners will call it a jonquil. So avoidance won't work either, not unless we go to such horrible lengths as writing things like "Please send me one narcissus. On second thought make it a dozen."

There are other complications in this business too. These Latin plurals are as bad to pronounce as awkward English plurals. Are you going to be really Latin and pronounce *narcissi* "narciss-ee" or use written Latin and spoken English and call it "narciss-eye"? This pronunciation gets particularly confusing, for example when you go back to your college reunion and no one can tell the boys from the girls when the old grads start mixing up the pronunciation of *alumni* and *alumnae*. In this horrible case the feminine plural with the Latin pronunciation sounds like the masculine plural with an English pronunciation and vice versa and et cetera. See! When we start using these Latin plurals in writing we come up against another hard decision to make. Are we going to use them in speaking too?

Obviously there is only one sensible decision to make. Never use a Latin plural in common-day English speech. Just form a plural like you would with any old English word, or forget the whole affair if awkward and use the singular form for both tenses. So be it with *narcissus*!

Experimenting with Daffodils

HAROLD S. KING, Darlington, Maryland
Chairman, Health and Culture Committee

ANYONE can grow daffodils. Many can grow them so well that they take prizes at shows.

As experience accumulates, one is not content with merely following customary cultural practices. Questions arise. Why is it, for instance, that we divide established clumps and how often is best, — after one year, two years, five years? Do all kinds behave in the same way, or do some respond better to frequent moving and others resent the disturbance? Is the decline in quality due to mere physical crowding of the bulbs and roots, to depletion of some essential in the soil, to the action of micro-organisms, or to some toxic substance excreted into the soil by the daffodils themselves?

One way to find answers is to ask an expert for his opinion. The hard way, and really the most interesting, is to find out for one's self. When one reaches this stage, new satisfactions develop, particularly the satisfaction of adding to the basic store of knowledge an established fact. True facts have a permanence lacking in a flower on the show bench.

But how do we know that we have a new fact? So many influences are at play out in our gardens that it is often difficult to know what is responsible for an observed result. On entering this field of research one should have an understanding of a few of the general principles of scientific experimentation.

In the first place one should have a significant problem. This problem should be examined to determine whether it is really worth the effort, time, and expense required in its solution.

Then one should learn what previous work has been done to avoid repeating experiments already performed by others. Ideas on how to proceed are often obtained during this search of the literature. It would be helpful if one could refer to a *Narcissus Abstracts* of published articles. It would seem that some such abstract service could be a function of the American Daffodil Society. The U. S. Department of Agriculture maintains a card file listing scientific articles on daffodils. The Health and Culture Committee of the ADS has a large number of abstracts largely on the chemical aspects of the subject but being expanded to include other topics.

Having found no answer to the question in the literature, one is ready for the next step — what scientists call the “design of the experiment”. Many pitfalls are avoided by careful preliminary planning. Measurement is an essential of scientific investigation. One wants to be sure that one measures the effect produced by a single variable with all other factors kept constant. This is done by the use of control plantings.

Let us take a very simple problem and show how it may be pre-planned. Assume that we desire to know the difference in time of bloom of two clones blooming close together. We are not concerned here with the exact time of blooming but merely with which is earlier and how much earlier.

We cannot settle the question by observing that one bed blooms before another. The same clone varies considerably in blooming time depending on the location in respect to sunlight, temperature, and type of soil. So we design an experiment where these factors are as nearly identical as possible for both clones. We do this by planting the bulbs alternately, clone 1 and clone 2, in a square. Here one clone acts as control for the other.

The question arises, how many bulbs will be necessary, that is, the size of sample. Certainly one of each is insufficient and one

hundred would be out of proportion to the accuracy required. Let us say that the square will be four rows of four bulbs making a total of eight bulbs of each kind.

The bulbs should be planted with their tops at the same depth in a location where conditions over the whole planting are as uniform as possible. From the time of planting they should be treated alike. Even then there is a pitfall. If the bulbs were purchased, prior treatment of the two clones may have differed. The times of blooming the first year may not be as significant as those recorded for the second year.

A final word is necessary on scientific method. To guard against error and to provide a permanent record, accurate data should be entered in a book at the time they are noted. These notes should be dated. In the above experiment the record should include not only the date at which each flower blooms but also a detailed description of everything that was done from the beginning. Often such notes are valuable in connection with some result entirely unexpected when the experiment was started. From these notes are derived data on which conclusions are drawn, for no conclusions have validity that are not based on recorded facts.

As an illustration of the application of the above principles, we shall describe a project recently completed. It seemed to me that one of the important problems in daffodildom is the shortening of time between seed and bloom. One method to accomplish this end might be by the use of the new growth stimulant, gibberellic acid, which has been so widely publicized in recent years. In order to get prompt results the problem was broken down into two parts; the effect on seed germination and on bulb growth.

In the first part, daffodil seed obtained from Grant Mitsch were soaked in a 100 parts per million solution of gibberellic acid. These were planted on one side of a seed pan in sterilized soil; on the other side were planted untreated seed as a control.

In the second part of the experiment, ninety King Alfred rounds obtained from Jan de Graaff were planted in three parallel rows of thirty each. In the first row were bulbs that had been soaked in the 100 parts per million solution of gibberellic acid. Bulbs in the other two rows were untreated at the time of planting, but twice in the early spring the leaves of the first and second rows were swabbed with the solution. The third row was left untreated as a control.

Now for results. In part one a few untreated seeds germinated but none of the treated seeds. The untreated seedlings which sprouted soon rotted off. Apparently basal rot or some other fungus spread throughout the seed bed. In part two the bulbs were dug after the leaves had become yellow. It had been noted that in each of the three rows two bulbs did not come up, leaving 28 plants per row. No difference had been noticed in the three rows in the height of foliage or in the quality or time of bloom. In row one the leaves died down sooner than in the others. On digging, 13 bulbs were harvested from row one, 19 from row two and 27 from row three. The rest had rotted. The size of the sound bulbs from the three rows did not differ materially.

These experiments show that gibberellic acid, certainly in the concentrations and manner used here, was not helpful in reducing the time from seed to bloom. On the contrary, its use seemed definitely harmful. Treated seeds did not germinate, as shown in part one of the experiment. Part two showed that gibberellic acid had no effect in promoting growth, and also indicated that it was harmful to the mature bulbs, rendering them more susceptible to rot. It might be said that the very wet spring and summer were responsible for the rot. Here the value of having a control of untreated bulbs becomes evident. They did not rot. Therefore, gibberellic acid, like certain other hormones, (Stuart and McClellan, *Science*, Vol. 97, p. 15, 1943), promotes rot.

Portrait of a Daffodil

LARRY MAINS, Philadelphia, Pennsylvania

LAST summer, you prepared the soil in the daffodil beds well in advance of planting time. Then you followed the advice of Freeman Weiss and soaked the bulbs in mersolite for five minutes. After digging the holes for the bulbs, you fertilized below and then carefully set the bulb at the proper depth and back-filled with soil that had also been fertilized as Miller Thompson has recommended. Then old Mother Nature took over and the little roots started to grow and kept right on growing. Long before any of us feel like gardening, the leaf sheaths started to poke their noses through the ground to test the nippy air. Finally, the long-awaited day came at last and the daffodils burst into glorious bloom. It is a breath-

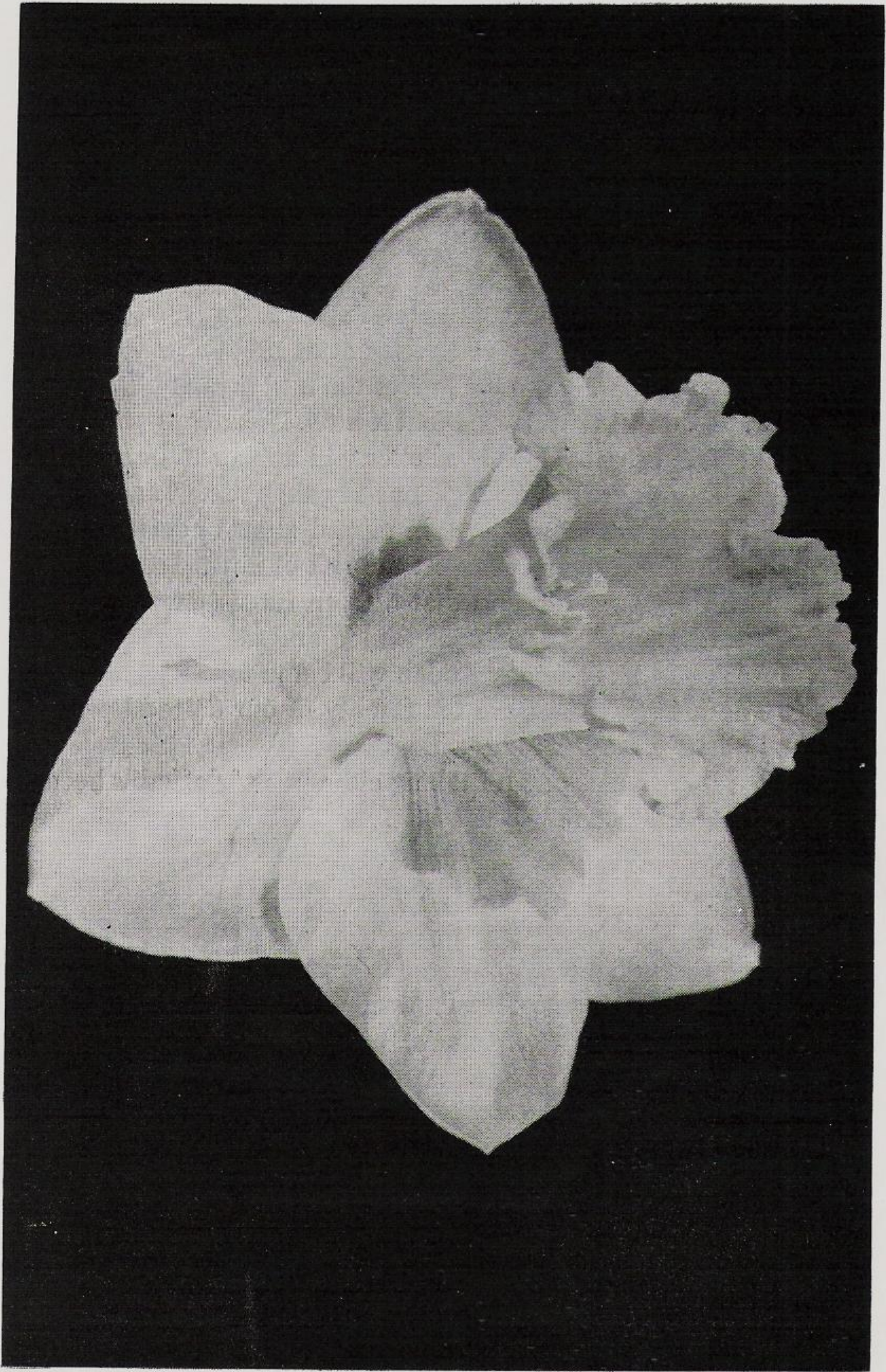
taking moment, and as we go panting around the garden, we yearn for a camera and color film to capture and preserve this beauty. How nice it would be to have a close-up portrait of each of our favorites that we may later re-live and re-enjoy their extravagant splendor.

What equipment is necessary? Well, almost any 35mm. camera will do along with color film, light meter, and possibly one or two other gadgets, depending upon the kind of camera you have. More about the gadgets later, but the basic equipment is simple.

First, why a light meter, when one of our most competent authors on photography has said that all you need to do on a bright, sunny day is to set your camera shutter to 1/100 second — your lens to *f*5.6 — your camera pointed at and focused upon the subject — snap the picture — you will get it! You may be sure that he was not talking about taking a portrait of a daffodil. The time of exposure and the setting of the lens depend entirely upon the intensity of light falling on the one daffodil you are photographing. Over-expose a picture of a white daffodil and the slide will appear all washed out. Under-expose a picture of a yellow trumpet and it will appear a dramatic orange in color. The amount of light upon the single bloom needs to be known and known accurately. For this purpose, I prefer the reflective type meter and recommend either a Weston or a G. E. photo-electric meter. And don't stand back and just point the meter in the general direction of the flower. Hold the meter only two or three inches from the flower, making sure that the meter does not cast a shadow upon the flower or your meter reading will be that of the shaded flower. Do without a meter if you will, but be prepared for a lot of disappointments. A brand new meter will cost around \$24.00, but second-hand meters of the makes mentioned above will be reconditioned by those companies for a very nominal charge and is worth looking into by the economy minded.

Now, for color slides, what color film should be used? You have the choice of Super-Ansochrome at ASA exposure index 100, Anscochrome and Ektachrome at ASA 32, and Kodachrome at ASA 10. The ASA number is the relative film speed and once the index is set on your light meter, you can forget about it — the light meter does the rest.

Super-Anscochrome is a very fast film, making it possible to take action pictures in color, or to take picture around a campfire, or even by candlelight. Its speed is not necessary, or even good, for taking flower pictures. Anscochrome will give softer yellows than



Rima

Grant E. Mitsch

the Kodak films, but the color it gives to daffodil foliage spoils it for me.

Of the two Kodak films, the Eastman people recommend Kodachrome as the best for flower pictures. All of my friends who do much photographic work with flowers agree with them. However, do not expect any color film to give you absolutely true color. The Eastman Kodak Company says, "Kodak color films, properly used, give satisfactory color rendering for their intended purposes, but they are not designed for making precise color records of flowers or other subjects." While Kodachrome is not as precise as you would like it to be, still it, in my opinion, gives the best results of any color film now available. You will find that it is too friendly to yellow and red, so that your bright-cupped varieties will appear to be almost as bright as the catalog color descriptions say they are. Lime-yellow, lemon-yellow and sulphur-yellow are missed almost completely and appear much too yellow in tone. At the risk of having someone say it is too technical, I have found that a Cyan filter (CC20C) comes pretty close to getting the color of Binkie and others in that color class. It may be that someday Kodak will come up with the answer and will tell us how to improve the fidelity of our daffodil pictures.

What kind of 35 mm. camera do you have? It isn't necessary to go out and buy a new one for taking close-ups of daffodils because any kind will do. There are two basic types, the single lens reflex (S.L.R.) and the range finder (R.F), or blind camera. Both have their merits.

With the S.L.R., you see the bloom you are photographing as it is projected through the taking lens upon the ground glass viewfinder. The big advantage of this type of camera in close-up photography is that you are able to compose the picture on the view finder and you see in advance just what you are going to get. Not only will you see the pose of the flower but you can also see what kind of a background you are going to get. Too often, we rivet our attention so completely upon the principal object that we do not see the background while we are taking the picture, but when we see the slide projected upon a screen the background is so apparent. I have thrown away more slides for this one reason than any other.

Most S.L.R. cameras come equipped with a lens of 50 mm. focal length and will focus as close as two feet. This will not be quite close enough to make a close-up of a single daffodil. Since all S.L.R. cameras take interchangeable lenses, one quick remedy is to

buy another lens of longer focal length. It isn't really necessary, yet sooner or later, you will probably do so. All you really need to do is to buy an extension tube 5 mm. to 7.5 mm. in thickness to fit your camera and you will then be able to focus on the daffodil close enough. Extension tubes usually come in sets of three and you may have to buy the whole set in order to get the shortest one, which is the one you need. They are not expensive. Technically, (here we go again) the use of an extension tube requires a little additional time of exposure, but the easiest way to make the correction is to open the aperture a little. For the shortest tube, moving the aperture indicator $1/3$ of a stop toward the next lower numbered stop is ample compensation. Should you forget to do this, it will not ruin your slide.

The range finder type camera is an ideal snapshot camera for taking pictures of the children, groups of friends and all the scenery you want to take home with you from a vacation trip. Only a few makes provide for interchangeable lenses. Most R.F. cameras come equipped with a lens of from 40 to 50 mm. focal length and will not focus closer than 3.5 feet. That is not close enough for taking close-ups of individual blooms. With the aid of a couple of gadgets, however, you can get excellent results. Here is what to do.

Kodak makes a supplementary lens, called a Portra lens, especially for the purpose of focusing closer than 3.5 feet and no additional exposure time or change in aperture is required when using it. You will need an adapter ring to hold the Portra lens. The ring is slipped over the lens mount in front of your regular lens. The supplementary lens is then inserted in the adapter ring and a retaining ring added. The whole outfit will not cost you more than five dollars. Portra lenses come in different powers ($1+$, $2+$, $3+$) but you don't have to give a hoot what those numbers mean. What you do have to know is that the Portra lens changes the meaning of the distance scale on your camera. As an illustration, suppose that your camera has a 50 mm. focal length lens and you add a $2+$ Portra lens to it. If you set the distance scale on your camera to infinity, the camera now focuses sharply on an object $19\frac{1}{2}$ " from the front of the Portra lens and will cover an area of about $9'' \times 13''$. If the distance scale is set at 3.5 feet, the camera focuses sharply on an object $13\frac{3}{8}$ " from the front of the lens and will cover an area of about $6'' \times 9''$. With a $3+$ Portra, you can get even closer if you want to do so.

But who wants to do all this measuring business? Besides, the view finder is no good at such a close range and you literally have to aim the lens at and in line with the flower, altogether too much nuisance. That is where gadget number two comes in. You fit a focal frame to your camera.

A focal frame can be made to just the size you want, attached and adjusted to your camera. Then all you have to do is to hold the camera so that the focal frame surrounds and is a little to the front of the central plane of the bloom you want to photograph — proper aperture — correct exposure — snap the picture — you will get it! It is just that simple. An adjustable focal frame, called the Cal-Cam Focus Guide, can be purchased from the manufacturer, Cal-Cam, 1564 North Grand Oaks Avenue, Pasadena 7, California. My latest photography magazine lists it at \$9.95. Or you can make a focal frame of fixed size yourself. The Eastman Kodak Company has a pamphlet, No. C-12, that tells you how to do it. No doubt your dealer will get the pamphlet for you, but you can just as easily write to the Sales Service Division, Eastman Kodak Company, Rochester 4, New York.

While the making of a focal frame may seem to be a lot of trouble, once you have it, you are in business. A friend of mine uses a Cal-Cam on a Bolsey camera and gets wonderfully sharp pictures. Also, he takes five, while I am fussing over the exact composition I want as seen through the ground-glass view finder of my S.L.R. For speed of operation, you can't beat it.

Kodak makes close-up kits for their Signet and Retina (R.F.) cameras and Leitz makes a couple of outfits for their Leicas. For other cameras, you either buy a Cal-Cam or make your own. In case you boldly decide to make your own, here is how you can test the adjustment. While the camera is not loaded with film, set the aperture at its lowest number, the exposure to T and press the shutter release. Now open the back of the camera and tape a piece of ground glass or tissue paper large enough to cover the 24 x 36 mm. opening. Place the camera so that it is pointed at a brightly lighted book or magazine cover and use the ground glass just like you would a view finder. You can now adjust the distance of frame to camera until everything is in sharp focus. That is all there is to it.

If you have read this far, just one more thing and I am finished. The direction of the light makes all the difference in the world in the life-like quality of your color slides. Pictures taken in dull, flat light,

or with bright frontal light appear to be two dimensional. On a sunny day, if you can move around without stepping on other daffodils to a position so that the flower is side-lighted, or even such that the light shines through the petals from the back, try some of you close-ups that way. You will be amazed at the three-dimensional effect that you get. Your daffodil really lives again in your color slides.

Happy shooting, friends — have fun!

The London Show

C. R. WOOTTON, Walsall, England

B RITAIN, in common with the U.S.A. had a peculiar winter and an early spring. The weather until early March was comparatively mild and wet. We did have a little frost and snow, at times, but it only lasted a day or two, and then returned to more mild and rainy conditions. As a result daffodils came along early with soft sappy growth. Early in March, colder conditions arrived, and for nearly five weeks we had frost at night, drying winds from between North and East, with snow in some localities, although in the Midlands we did not have any. Tonight April 17th, it is raining again, the first we have had, for more than a month. On March 1st there was every indication of a season as early as, or earlier than 1957. Some varieties had already crooked their heads. With the coming of the colder weather, growth slowed down, but the varieties which were advanced did their best to open. The severe frosts at night put them down on the ground, and with the rising of temperature to around 40° F. by day, they came up, only to be put down again at night. It was not surprising that with weather conditions such as these, many flowers opened badly wrinkled, poor in colour, and quality. Sap in the stems had been frozen and thawed out so often that the stems were hardly strong enough to support the poor specimens of flowers on them.

The first show in London with competitive classes for daffodils was on April 1st and 2nd. Originally this show had been arranged for raisers and growers in early districts for flowers grown in the open. This year however, the schedule committee had included one or two classes for flowers from under glass and it was in these classes that the best flowers were to be seen. Cornish growers had

had such bad weather conditions that they did not bring flowers at all. I saw Mr. Michael P. Williams of Lanarth at the show, and he informed me that his flowers were completely ruined.

Mr. J. L. Richardson had a trade group of standard varieties from the open, and from under glass. Considering the season, they were good, the majority however lacked substance, colour and finish.

From Northern Ireland Mr. Dunlop brought sufficient exquisitely grown flowers from under glass for a small exhibit. Among his flowers were vases of Moonstruck and Spellbinder which I understand Mr. Guy Wilson had sent. They helped to provide a little variation to Mr. Dunlop's exhibit.

I do not intend to give a list of the prize winners, at this date only a fortnight after the show, only three of four varieties were sufficiently good to impress me. In his group for flowers grown under glass, Mr. Richardson had a vase of three stems of his new Glacier. All three blooms were fine, but the upper one was a magnificent flower, and I'm sure would have been awarded the medal for the best bloom in the show, had it been eligible. As it was, this honour went to his new variety Vulvan (Carbineer \times Ceylon). While it was a fine flower, had the season been more favourable, we should have seen it in far better form. The orange scarlet in the crown seemed to be lifeless, undoubtedly due to the cold, wintry conditions which existed at the time, even at Waterford. The other flower which I remember was St. Keverne also exhibited by Mr. Richardson. St. Keverne is not a very large flower, but it is a consistent one. Someone said it was a lazy man's flower, because it came so perfect every time. The only variety put before the Narcissus and Tulip Committee at this show, was Mr. Dunlop's variety Wedding Bell. I've seen this before, in fact I have it in my garden, but never have I seen it so good. The committee asked to see it again when flowers are available from the open.

Between April 1st and the main daffodil show of April 15th and 16th, weather conditions remained much the same. Maybe the day temperatures tended to rise a little but nights were still cold. Flowers were poor in my garden, and I went round on April 12th, and cut a few flowers partly open in the hope that the warmth of the house would bring them on sufficiently to take to London the next day. Alas, I went without them. They were not good enough.

As Mr. Wilson had only a 20 foot group, I did not go into the Hall until first thing on the morning of April 14th. It was apparent on

entering that Mr. Richardson was in form. Between the 1st and 2nd show, the improvement in his flowers was amazing; they had come to life. Colour as only he, and climatic conditions of Southern Ireland can produce, was to be seen in the yellow reds, and white and reds. He had size, substance and quality too. On his trade stand there were specimen vases of practically everything he has in his catalogue, and fully deserved the Gold Medal he was awarded for the exhibit. Mrs. Richardson and his foreman, Mr. J. Goldsmith, worked hard and fast for long hours to do everything they had to, to finish their trade group, and also stage the flowers for the various competitive classes Mr. Richardson had entered.

Among flowers on view in his trade group I noticed excellent Spanish Gold, Kingscourt, Masai King, Salmon Trout, Rose Caprice, Patagonia, and many others. Mr. Wilson's trade exhibit was much smaller, but here again there were fine quality varieties superbly grown. The centre of his stand from top to bottom gave the impression of cool severity. The varieties used were Spellbinder, Glenbush and Moonstruck with a vase of Lapford each side, and for colour contrast Irish Rose one side, and Fintona on the other. Nearly all his flowers were pot grown. I have admired Fintona ever since the first time I saw it, when exhibited as No. 40/73, but never have I seen it as good. Here is a variety which when cheaper will provide the persons who prefer to grow their flowers in the protection of a cool greenhouse with much joy. The vase of Ave was very fine also. This variety seems to come far better with a little protection than in the open. For yellow red, he had good vases of Home Fires and Foxhunter, while the four vases of Charity May in the centre of the stand underneath Moonstruck provided the relief necessary, and finish also.

After helping stage Mr. Wilson's group, staging flowers for a friend, judging, attending a committee meeting, and then assisting Mr. Wilson, there was little time for making notes. There were excellent trade groups by Barrs, Blom, Dunlop, de Jager, Gourlay, Harper, Lower, and Sherrard, and of course Alec Gray with miniatures.

With regard to the competitive classes Mr. Richardson was back to winning form with Mr. Wilson second, and Mr. Dunlop third in the Engleheart Cup Class. Mr. Richardson's exhibit was truly magnificent. To select any particular variety for mention would be an injustice to the remainder, but of new flowers Golden Rapture,

Burnished Gold, No. 458 a very smooth rich gold *1a*, and Rose Royale were outstanding, while the blooms of Air Marshal and White Prospect were considered when selecting the best bloom in the show.

In Mr. Wilson's group of 12, Ardbane, Rashee, Passionale, Slieveboy, and Fintona, were outstanding. I thought Passionale very fine indeed. It was from this exhibit that the best bloom in the show was selected, viz. Slieveboy. Perhaps hardly so deep in colour as some *1a*'s, it was wonderfully smooth, and I am sure those people who imagine a daffodil should be yellow, and from division *1a*, were highly satisfied.

Among the outstanding flowers in Mr. Dunlop's exhibit were Whitehead, Brookfield, and Golden Dollar. Whitehead was exceedingly fine, and must have also been considered in the final selection for the finest bloom.

Mr. Richardson was the most successful competitor in the larger classes. He won the class for six varieties not in commerce, Careysville, a *2b*, with colouring very similar to Penvose, but much finer perianth, Glacier, and No. 737 a gloriously coloured *1a*, were outstanding. For 12 varieties, Mr. Richardson was again successful. Majorca, Air Marshal, Golden Rapture, and Border Chief were all first class. He was also successful in the class of 12 trumpet varieties. This exhibit was excellent, and if I had to select anything from it, I would have had Jupiter. Mr. Wilson was second. In this exhibit I thought Rashee, Vigil, and Prince Igor were the best.

Mr. Richardson was successful for 12 varieties from Division 2, also the class for Division 3. In the former class Firecracker and My Love were very good. No. 138, a large *3b*, with a striking deep orange crimson crown was probably the best in class for Division 3. Mr. G. Wilson won the class for 12 varieties for subdivisions *1c*, *2c*, and *3c*. Taran, Ave, Rashee, and Cloneen, all caught the eye. Mr. Richardson was again the winner in the class for 6 varieties with pink in the crown. There is not any doubt that Debutante is a telling flower, not so large in the crown as either Rose Caprice or Salmon Trout, it has much strong colour. In Mr. Wilson's exhibit, Fintona and Irish Rose were extremely fine.

With regard to single bloom classes, practically all the flowers exhibited are in commerce. The only classes which had numbered seedlings were *2a* for self yellow, *2d*, and 4. In the first of these, Mr. Richardson had a new seedling No. 428, raised from Kingscourt ×

Ceylon, which promised well, and may eventually be the variety to replace Galway. No. 241, shown by Mr. Richardson in the class for reversed bicolour large cup, was a seedling from Binkie, softer in colour in the perianth, with a white crown, and the whole flower better quality entirely. No. 434, also exhibited by Mr. Richardson, in the class for doubles was very fine. Pure white in the perianth, it has small red petals intermingled with the perianth. Personally, I am not very fond of the double varieties, but would not mind a bulb of 434 in my garden.

A report of the show would not be complete without comment upon the amateur section, for usually it is in this section that the competition is really keen. Standards were much lower this year than usual, but all 1st prize winners had excellent flowers. Probably the outstanding exhibit in the show was for the Bowles Cup, 24 varieties, three stems of each, from four divisions. I don't think the judges had much difficulty in finding the winning exhibit. Each year the 1st prize set of blooms to win this class has always been very high, and the 24 vases put up by Mr. R. A. Southon in 1958, well maintained the reputation. He did not have a poor vase. The flowers were well grown, of even size, and excellent quality.

In the class for 12 varieties from three divisions, one stem of each, Mr. J. S. B. Lea had lovely flowers, and fully deserved the award.

I cannot say that I saw many 1st class flowers in the single bloom classes, but Narvik, staged by Mr. R. A. Southon in the class for large cup 2a, with colour predominant, and Ave in subdivision 2c, staged by Dr. Topping were outstanding blooms even for these varieties.

The trend in the daffodil world is toward stronger colour in varieties which, for lack of a better word are classed as pink crowned, but some tones seemed almost buff brown. The true pink tone is still rare, but that I think will come, for I have seen varieties which can be called pink. I have in mind the rather small, very weak-stemmed variety, Stray Pink, listed by G. L. Wilson. In this flower the crown is the nearest I know to a true pink. There are also flowers which when first open are true pink, so I am sure that the day is not far distant when we shall have pinks of far finer colour. In yellows the trend is still toward deeper richer gold with finish equal to Royalist. Burnished Gold blooms rather late in the season so it may not be of much use to members who live in the warmer parts of the U.S.A., but I'm sure that in the states of Oregon and

Washington it will do well. In white flowers, all the Irish raisers seem to have new varieties coming along. Mr. Richardson's Glacier is a fine flower and comes early in the season too.

Generally speaking, the trend is for continued improvements along the recognized lines. There does however, seem scope in Divisions 6 and 7 for someone to do quite a lot of work. For example Mr. Richardson's *cylamineus* hybrid seedling shown at Birmingham seems a great improvement upon anything so far. This year I have flowered a new jonquil hybrid with white perianth and yellow crown which looks promising.

I often wonder if some future generation will even see a blue crowned flower. This has been a topic of conversation for many years among daffodil lovers. Some varieties which have a crown whiter than the perianth will, in certain lights, almost reflect blue. This year a new seedling which came out of a seedling $2c \times$ Empress of Ireland, when held against the daylight, and looked at full face, seemed to be a pale blue. Of course it was white, but for a short time, it did give me an impression of what a pale blue crown *1b*, would look like.

1957-1958 Registrations American Daffodil Society

MRS. WALTER COLQUITT, Shreveport, Louisiana
Registrar, American Daffodil Society

Registrants and Their Registrations

Baughn, Mrs. R. N., 1232 Clifton St., Conway, Arkansas
Arkansas Traveler

Culpepper, Charles W., 4435 N. Pershing Dr., Arlington 3, Virginia
Red Sunrise, Snow Gem

Link, Mrs. Goethe, R. R. 6, Box 152, Martinsville, Indiana
Titmouse, Towhee

Mitsch, Grant E., Canby, Oregon

Aircastle, Bethany, Cadence, Entrancement, Flamingo, Frolic,
Interlude, Moonmist, Nampa, Nazareth, Olivet, Spring Song,
White Spire

1957-1958 Registrations

- Aircastle (Mitsch). 3 *b*; L-M. Green Island × Chinese White. Daffodil Haven 1958; Registered, 1958
- Arkansas Traveler (Baughn). 3*a*; 18" EM. Perianth, light yellow; Corona, light yellow. *N. barrii conspicuus* × unknown. Registered, 1957
- Bethany (Mitsch). 2*d*; M. Binkie × Sdlg. K43. Daffodil Haven '58; Registered, 1958
- Cadence (Mitsch). 3*b*; 20"; L-M. Perianth, white; Corona, green center shading to yellow; orange-red border. Galata × Tuskar Light. Daffodil Haven 1958; Registered, 1958
- Entrancement (Mitsch). 1*d*; E. King of the North × Content. Daffodil Haven 1958; Registered, 1958
- Flamingo (Mitsch). 2*b*; M. Coralie × Dawnglow. Daffodil Haven 1957; Registered, 1958
- Frolic (Mitsch). 1*b*; EM. Sdlg. 36C2 × Kanchenjunga. Daffodil Haven 1957; Registered, 1958
- Interlude (Mitsch). 2*b*; M. Tunis × Shadeen. Daffodil Haven 1957; Registered, 1958
- Moonmist (Mitsch). 1*a*; EE. King of the North × Content. Daffodil Haven 1958; Registered, 1958
- Nampa (Mitsch). 1*d*; EM. King of the North × Content. Daffodil Haven 1958; Registered, 1958
- Nazareth (Mitsch). 2*d*; EM. Binkie × Sdlg. K43. Daffodil Haven 1958; Registered 1958
- Olivet (Mitsch). 2*c*; LM. Broughshane × Chinese White. Daffodil Haven 1958; Registered, 1958
- Red Sunrise (Culpepper). 2*b*; 20" EM; Perianth, pale yellow; Corona, orange red. Fortune × Dick Wellband. Registered, 1957
- Snow Gem (Culpepper). 3*b*; 18"; M.; Perianth, white; Corona, orange-red. Firetail × unknown. Registered, 1957
- Spring Song (Mitsch). 2*b*; EM. Mabel Taylor × Pink Lace. Registered, 1958
- Titmouse (Link). 2*b*; 14"; E. Perianth white; Corona, chrome yellow edged nasturtium orange. Alight × Coverack Perfection. ADS Rose Ribbon 1958, Indianapolis. Registered, 1958
- Towhee (Link). 2*b*; 14" L. Perianth, white; Corona, chrome yellow. Mrs. E. H. Krelage × Fortune. Registered, 1958
- White Spire (Mitsch). 2*c*; M. Daisy Schaffer × Chinese White. Daffodil Haven 1957; Registered, 1958

The 1958 American Daffodil Symposium

CHARLES MEEHAN, Chesterfield, South Carolina
Chairman, Symposium Committee

WITH the help of a large committee and a lot of hard-working vice-presidents, our fourth annual symposium was conducted for the first time on a regional basis. In so doing, we have reached more owners of really large collections of daffodils than ever before. This extended effort really produced no startling changes in our usual symposium results, a fact that proves the soundness of our past reports, plus the all-around hardiness and adaptability of our favorite flower, the daffodil.

The results below represent a composite tabulation of these regional reports, and are divided into three separate categories:

Exhibition: These are the daffodils, that when well grown, stand a good chance of winning a ribbon at your local flower show. They are selected with all the fine points in mind that a good daffodil judge will consider. Price was not a consideration, but none of our winners are so very expensive — especially if you covet that prize.

Garden Decoration: This is that healthy, vigorously growing type, that make effective clumps of color in your early spring garden. Some of them, with a bit of extra good care also rate as exhibition varieties. A few are just what Judge Quinn calls "hussies". Due to spectacular size, bizarre form, or color they are very good things to grow in large groups. Most are very cheap.

Novelty: Under our bulb trade terms, a novelty is a daffodil that has been introduced, or put on sale, only in the past couple of years. This is a correct term, incidentally, for the word novelty means new. Some that we list as novelties have been around a lot longer, for we asked our reporters to mention anything that they had only grown a short time, but which looked very promising as an Exhibition or Garden Decoration variety when better known. Perhaps a better term for this section would be "On Trial".

Comment on the individual flower is brief, if at all. Please refer to your favorite catalog for complete descriptions.

The daffodils are grouped under twenty items, following as closely as possible the accepted classifications of the Royal Horticultural Society, London, England. In a few cases the RHS classifications have been split for clarification. In others, we combined the subdivisions where the few grown over here did not seem to warrant a separation. Pink daffodils are grouped under Item No. 20, regardless of classification. Most of them are 2*b*, but a few could be called 1*b*.

Last spring it was decided that the selection of our best miniature and species daffodils would be best left with those who grow them as a specialty. We asked Dr. Helen C. Scorgie, Harvard, Mass., to canvass these specialists and the results listed separately will follow this article. There is only one point we can add to her suggestions. The name shown in parenthesis is the name that the variety is generally sold under. However the mouthful, the first name listed, is the correct one.

In the first section the number shown in the parentheses after the daffodil name is the position it held in our last year's symposium: for example Kingscourt (1) — first this year and last; or 2. Grape Fruit (5) — second this year, but fifth place last season.

Items marked by an asterisk (*) are very low-priced. Generally 25c to 40c per bulb, and cheaper by the dozen. Some are not even that high.

ITEM No. 1. Trumpet, Self yellow. (RHS Sub-division 1*a*)

Exhibition:

1. Kingscourt (1)
2. Grape Fruit (5)
3. Hunter's Moon (2)
4. Ulster Prince (3)
5. Moonstruck (6)
6. Milanion (4)

Garden decoration:

1. Mulatto (1)*
2. Unsurpassable (5)*
3. Garron (3)*
4. Grape Fruit (2)
5. Lord Nelson*
6. King Alfred*

Comment: Kingscourt's lead as an exhibition trumpet, both here and overseas, seems as safe as ever. Some think it's stem too short. Moonstruck, an extra large and strikingly pretty pale yellow flower, is sometimes too early for the shows. Limey colored Grape Fruit, very susceptible to virus. Lord Nelson, which placed this year for while still so popular, is drawing more and more complaints as being the first time, is a large vigorous Dutch variety and very attractive.

Novelty: Slieveboy almost made our Exhibition list this year, and it won Guy L. Wilson another "Best Bloom of the Show" at London, this spring. Mr. Wilson's series of late blooming trumpets drew good comment. They are: Bastion, Golden Riot, Donore and the extra fine Mahee. Richardson's Kings Ransom and Royal Oak have been observed over here two or three years now. Both are ultra smooth and have an almost unbelievable purity of color. Neither could be called large trumpets. His superb Arctic Gold is attracting the attention it deserves, both for exhibition and for breeding purposes. The Oregon Bulb Farms' Halloween was recommended highly. So was Grant E. Mitsch's beautiful Luna Moth.

ITEM No 2. Trumpet, Bicolor — white perianth with yellow trumpet. (RHS Sub-division 1b)

Exhibition:

1. Trousseau (2)
2. Preamble (1)
3. Content (3)
4. Effective (4)
5. Lapford
6. Foresight

Garden Decoration:

1. President LeBrun (2)*
2. Effective (1)
3. Music Hall (3)*
4. Foresight
5. Content
6. Queen of the Bicolors (4)*

Comment: By a single vote Trousseau edged Preamble out of the number one spot that it occupied last year. Both are magnificent and very desirable — so is Content. When fully acclimated Preamble gives consistently perfect show-type bloms. Lapford, which is rated for the first time this season, is a good show flower of first class quality

Novelty: Drawing words of praise were: Newcastle, Balleygarvey, Zest, Karamudli, Chulu and Tudor King. The large pale bicolor Cape Horn will probably be in the line-up in a few more years when better known.

ITEM No. 3. Trumpet, Self white. (RHS Sub-division 1c)

Exhibition:

1. Cantatrice (1)*
2. Beersheba (3)*
3. Broughshane (2)
4. Mt. Hood (4)*
5. Vigil (6)
6. Samite

Garden Decorations:

1. Beersheba (1)*
2. Mt. Hood (2)*
3. Mrs. E. H. Krelage (5)*
4. Ada Finch (3)*
5. Moray
6. Gloria*

Comment: A well grown Cantatrice is truly like a work of art. Some reporters say that it is difficult to produce such blooms, but still that variety got over twice the number of votes of its nearest competitor. Keep trying, if it is giving you trouble — it's worth it. Vigil got only top remarks from all sources. With a little petting, Beersheba and Mt. Hood can, and often do, win a ribbon at our shows.

Novelty: The elegant Empress of Ireland is supreme, according to everyone. Other fine things are: Rashee, White Prospect, Coolin, Glenbush, Prestige, Mt. Jefferson and Glenshesk.

ITEM No. 4. Trumpet, Reverse bicolor. (RHS Sub-division 1d)

Comment: Of this limited classification, the beautiful Spellbinder is the only one generally grown by most of our reporters. Grant E. Mitsch has recently bred a whole excitingly new series, but bulbs are still very scarce. His Lunar Sea where mentioned at all, was always at the number one spot. His even newer, Entrancement was admired around the country only this last spring. Jan de Graaff says Mitsch has even a better one yet, to be called New Era.

ITEM No. 5. Large Cup, Self yellow. (RHS Sub-division 2a)

Exhibition:

1. Galway (1)
2. Carlton (2)*
3. Golden Torch (3)
4. St. Egwin (4)*
5. Crocus (6)*
6. St. Keverne (5)

Garden Decorations:

1. Carlton (1)*
2. St. Egwin (3)*
3. Crocus (2)*
4. Adventure*
5. Balmoral*
6. Golden Torch (4)

Comment: One fellow said, "What can possibly head off Galway? It's a waste of time." Galway is one of the best all yellow daffodils ever produced, but its blooming season can be supplemented by the others mentioned. All of these flowers make excellent landscape subjects if one has enough bulbs.

Novelty: Try growing Amberly, Mulrany, Lemnos and Ormeau.

ITEM No. 6. Large Cup, Yellow perianth – red or orange cup.
(RHS Sub-division 2a)

Exhibition:

1. Ceylon (1)
2. Narvik (2)
3. Dunkeld (3)*
4. Armada (4)
5. Rustom Pasha*
6. Fortune (6)*

Garden Decoration:

1. Fortune (1)*
2. Rustom Pasha (2)*
3. Aranjuez (5)*
4. Carbineer (3)*
5. Tinker*
6. Rouge (4)*

Comment: Ceylon, of perfect form and noble pose, needs a few days of warm sunshine to develop its intense red cup. The same kind of weather would burn Narvik to a crisp, for it opens in all of its glory and needs protection thereafter. This type of flower makes the most effective and colorful kind of garden clumps when sunproof, and many of them are. Especially recommended for this purpose were Rustom Pasha, Red Devon, Tinker, Aranjuez and Carbineer. If more bulbs were available, brilliant Home Fire and big, bold Armada would be ideal.

Novelty: Foxhunter was called great by so many that it might make our symposium another year. Don't miss Court Martial. Paricutin is a wonderful color contrast with a smooth, thick leathery texture. At recent London shows these were very well liked; Vulcan, Field Marshal, Border Chief, Maderia, Ringmaster and Masai King. Our own reporters praised too many for complete coverage. A few of them are, Air Marshal, Lady Luck, Fury, Red Squirrel and Winni-peg. Revelry got quite a few plugs, too.

ITEM No. 7. Large Cup, White perianth – light colored cup. (RHS Sub-division 2b)

Exhibition:

1. Green Island (1)
2. Coverack Perfection (3)*
3. Polindra (2)*
4. Statue (4)
5. Tudor Minstrel (5)
6. Festivity

Garden Decoration:

1. Polindra (2)*
2. Brunswick (1)*
3. Bodilly (4)*
4. Daisy Schaffer (3)*
5. Tunis (5)*
6. Coverack Perfection (6)*

Comment: Green Island is still well to the front as an exhibition variety, but it would be hard to go wrong in this popular and ex-

quisitely beautiful group of daffodils. Moreover, most folk find them all very easy to grow. There were a few cases of basal rot reported in Statue, Daisy Schaffer, Bodilly and Tunis.

Novelty: My Love drew most of the citations, but many thought Madrigal, Deodora and Aldergrove very promising.

ITEM No. 8. Large Cup, White perianth – red or orange cup. (RHS Sub-division 2b)

Exhibition:

1. Fermoy (1)*
2. Kilworth (2)*
3. Arbar (3)
4. Daviot (6)
5. Duke of Windsor (5)*
6. Buncrana

Garden Decoration:

1. Kilworth (5)*
2. Selma Lagerlof (2)*
3. Duke of Windsor (3)*
4. Dick Wellband (1)*
5. Flamenco (5)*
6. Fermoy*

Comment: Of a line-up of mostly red cup flowers there are two that are decidedly different. Daviot sports a goblet-shaped bright orangy cup which shades to a yellow ring at its rim. Buncrana, which can be very good, has a rather long frilled cup of a most attractive peachy orange color. Arbar is probably the finest red and white yet to make our pole. It will probably even go higher as its bulbs get cheaper. No criticism was received on any of the Garden varieties except Dick Wellband which burns rather badly in the sun.

Novelty: Highly praised Blarney's Daughter was barely nosed out of position No. 6 as an exhibition variety. You might call it a refined Daviot type flower. Following closely was big robust Alicante with its rich orange toned cup. Where grown, Pirate King and Signal Light were outstanding. Others plugged were: Red April, Firegleam, Sunny Brook, Hellfire and Fasnet. An English correspondent tells us that Avenger and Northern Lights represent the last word in the red and whites. They are being tested on a small scale over here and we may hear more about them as time goes by.

ITEM No. 9. Large Cup, Self white. (RHS Sub-division 2c)

Exhibition:

1. Zero (1)
2. Ludlow (2)
3. Truth (3)
4. Ave (4)
5. Courage (6)
6. Jules Verne (5)

Garden Decorations:

1. Jules Verne (1)*
2. Carnlough (3)*
3. White Nile (4)*
4. Niphetos*
5. Courage (2)
6. Tenedos (5)*

Comment: These delightful daffodils drew considerable criticism for their apparent lack of vigor. Reports of basal rot were widespread, encouraged, no doubt, by the extra wet spring and early summer in a lot of the country. Any of the above are worth replacing, if necessary. Even those recommended for the garden make fine exhibition specimens.

Novelty: Receiving earned rave notices were Dew Pond and Easter Moon. Early Mist is extra good and seemingly healthy. Knowehead and Castle of Mey are being tried by a few who say, "swell". White Spire was so sensational at Atlanta that every available bulb was sold on the spot.

ITEM No. 10. Large Cup, Yellow perianth — white cup (RHS Sub-division 2*d*)

Comment: There is only one widely grown representative of this limited classification — the universally popular Binkie. It is good for any use you can think of. Mitsch's Bethany is now available. Cocktail is very good most seasons. Several more are on their way to offer some real competition here.

ITEM No. 11. Small Cup, Yellow perianth — colored cup. (RHS Sub-division 3*a*)

Exhibition:

1. Chungking (1)
2. Ardour (4)
3. Therm (4)*
4. Apricot Distinction (5)
5. Market Merry (3)*
6. Dinkie (6)

Garden Decoration:

1. Market Merry (1)*
2. Edward Buxton (4)*
3. Mangosteen (3)*
4. Chungking (2)
5. Apricot Distinction (5)
6. Alight (6)*

Comment: Chungking is a vividly colored flower, but sometimes very rough when grown without protection. Ardour is running it a close second. Dinkie is a very attractive red rimmed little thing, but is often late for the shows. Nothing mentioned is very sunproof.

Novelty: Jezebel! Two others are cited as promising. They are Doubtful and Perimeter. Both are fairly early and good show type.

ITEM 12. Small Cup, White perianth — colored cup. (RHS Sub-division 3b)

Exhibition:

1. Blarney (1)
2. Limerick (2)*
3. Mahmoud (3)
- 4 Bravura (5)
5. St. Louis (6)*
6. Kansas (4)*

Garden Decoration:

1. Limerick (2)*
2. Lady Kesteven (1)*
3. Kansas (5)*
4. Forfar (4)
5. Blarney
6. La Riante (6)*

Comment: This section covers some of the very best daffodils of a wide range of color combinations, from well contrasted red and whites to those with cups daintily rimmed with color. Nearly all of them are extremely easy growers, but a few must be picked young to preserve the color.

Novelty: If you don't grow Matapan, get a bulb next fall. From all over, it's a very nice red and white. Snow Gem has made it's reputation around Washington and now needs to be spread around the country at large. Other excellent red and whites include Glenwherry, Enniskillen and the much heralded, as being sunproof and unbeatable, Rockall. For less contrasty colored things the following are said to be tops, Hamzali, Galilee, Fairy Tail, Bithynia, Coloratura, Artist's Model, Ballycastle, Carnmoon and Clockface.

ITEM No. 13. Small Cup, All white. (RHS Sub-division 3c)

Exhibition:

1. Chinese White (1)
2. Foggy Dew (2)
3. Cushendall (3)
- 4 Bryher (5)
5. Frigid (4)
6. Altyre

Garden Decoration:

1. Silver Salver (2)*
2. Hera (3)*
3. Samaria (4)*
4. Foggy Dew
5. Cushendall
6. Chinese White

Comment: Wonderful Chinese White got more first place votes than any other daffodil listed in this year's symposium. Hera is officially classified as Sub-division 2b, so really shouldn't be in the above line-up at all. It is definitely one of those ancient flowers that has been discontinued by most dealers, so its status is unimportant anyway. Our reporters voted for it as a 3c, and we placed it among them. All these are mighty pretty whites. Most of them bloom a little late. Bryher and Chinese White are two exceptions.

Novelty: April Showers, as listed by the Oregon Bulb Farms, got a number of nice nods. Evidently, this is not the flower recently registered under the same name as a 2*b*.

ITEM No. 14. Double Flowers (RHS Division 4)

Exhibition:

1. Cheerfulness (3)*
2. Swansdown (1)
3. Camellia (2)*
4. Double Event
5. Mrs. Wm. Copeland*
6. Yellow Cheerfulness*

Garden Decoration:

1. Cheerfulness (1)*
2. Yellow Cheerfulness (2)*
3. Camellia*
4. Mrs. Wm. Copeland*
5. Mary Copeland (3)*
6. Inglescombe*

Comment: When doubles are caught in the act of opening by a sudden freeze their buds often blast, or the resulting flowers resemble a limber-handled mop. Given good weather they can be very pleasing and fortunately most of the names covered above are usually reliable.

Novelty: Gaytime, Pink Cloud — the first pink double, Sunburst — a giant on strong stems, White Sail, White Lion, White Marvel — a double of the No. 2 *triandrus* Tresamble, Windblown, Shirley Temple — now listed by the Dutch Bulb Farms as Snowball, and Golden Ducat.

ITEM No. 15. *Triandrus* Hybrids. (RHS Division 5)

Exhibition:

1. Silver Chimes (1)*
2. Tresamble (2)*
3. Thalia (4)*
4. Shot Silk (6)*
5. Stoke (6)*
6. Niveth*

Garden Decoration:

1. Thalia (1)*
2. Silver Chimes (2)*
3. Tresamble (5)*
4. Shot Silk (4)*
5. Moonshine (3)*
6. Niveth*

Comment: A favorite Division in this country. All do well everywhere, with exception of Silver Chimes which loses some of its desirability as we go northward, where it is not considered too hardy.

Novelty: Same as last season; Lemon Drops, Yellow Warbler, Forty-Niner, Sidee, Thoughtful, Phyllida Garth and Samba. If you can find a bulb of old Harvest Moon it will give you perfection-type blossoms.

ITEM No. 16. *Cyclamineus* Hybrids. (RHS Division 6)

Exhibition:

1. Charity May (1)
2. Beryl (4)*
3. Peeping Tom (2)*
4. Dove Wings (6)
5. Jenny (3)
6. February Gold (5)*

Garden Decoration:

1. February Gold (1)*
2. Beryl (4)*
3. Peeping Tom (2)*
4. March Sunshine (3)*
5. Bartley*
6. Le Beau (5)*

Comment: This is a very popular class and all seem to do well. We are told that Peeping Tom and Bartley are identical.

Novelty: Try Jack Snipe, Cyclades, Garden Princess and Golden Lacquer.

ITEM No. 17. *Jonquilla* Hybrids. (RHS Division 7)

Exhibition:

1. Trevithian (1)*
2. Cherie (2)
3. Golden Perfection (3)*
4. Larnarth (4)*
5. Golden Goblet*
6. Sweetness (6)*

Garden Decorations:

1. Trevithian (1)*
2. Golden Perfection (2)*
3. Larnarth (3)*
4. Golden Sceptre (6)
5. Cherie (4)
6. White Wedgewood

Comment: All good growers — everywhere! And they smell good to most folk.

Novelty: The two red cups, Sweet Pepper and Susan Pearson, plus the all white Nirvana.

ITEM No. 18. *Tazetta* Hybrids. (RHS Division 8)

Exhibition:

1. Geranium (1)*
2. Martha Washington (2)*
3. Cragford (3)*
4. Orange Wonder (5)*
5. Glorius (4)*
6. Scarlet Gem (6)*

Garden Decoration:

1. Geranium (1)*
2. Martha Washington (2)*
3. Laurens Koster (4)*
4. Cragford (3)*
5. Scarlet Gem (6)*
6. St. Agnes (5)*

Comment: Tazettas grow like weeds in the south. In the north, however, they do better if the bulbs are lifted each summer and replanted in late fall, or used as pot plants. They are not reliably winter-hardy.

Novelty: Try Pride of Holland and Earlicheer.

ITEM No. 19. *Poeticus* Hybrids (RHS Division 9)

Exhibition:

1. Actaea (2)*
2. Cantabile (1)*
3. Sea Green (3)
4. Smyrna (4)
5. Sarchedon*
6. Sidelight*

Garden Decoration:

1. Actaea (1)*
2. Cantabile (2)*
3. Smyrna
4. Red Rim*
5. Snow King (5)
6. Edwina

Comment: All are old and familiar. These seem to do better in the northern parts of our country.

Novelty: Milan, Andrew Marvell and Felindre.

ITEM No. 20. Pink Cups of any Division.

Exhibition:

1. Rose of Tralee (2)
2. Rosario (1)
3. Mabel Taylor (3)
4. Wild Rose
5. Radiation (6)
6. Interim

Garden Decoration:

1. Mrs. R. O. Backhouse (1)*
2. Pink Rim (6)*
3. Wild Rose
4. Rose of Tralee
5. Mabel Taylor
6. Pink Fancy (6-tie)*

Comment: The pink color in daffodils is still a rather elusive quality. Some seasons it is good, some poor. It might depend a lot upon weather conditions, and the USA has all kinds. Rose of Tralee, our number one, sometimes comes without a trace of pink but it's usually a fine thing anyway. This past spring seemed to suit it exactly, although a case or so of roughness is on record. The same goes for the little Wild Rose. Interim is an attractive white daffodil with a dependable rosey rim. It is one of the parents of Mitsch's Rose Ribbon that was admired so at the Atlanta convention. Radiation is proving to be one of the most reliable "pinks" in this country so much so, that the bulb price has gone up, instead of the customary downward trend. If you want a big patch of pinks, nothing can beat Mrs. R. O. Backhouse for price and dependable color. Don't count on her for shows; she's mighty rough.

Novelty: The best pinks are definitely yet to come. Each year a number of new ones are placed on the market at astonishing prices. All should be tested, so if you can afford it, try a few and let our Society have the results. Here are some that are getting squeals from a few brave souls: Rose Caprice — one of the most dependable

for color, but some say not too good form. Irish Rose — well liked so far. Mrs. O. Ronalds — best pink cup of all tried. Salmon Trout — disappointing in the open, but excellent in pots. Pinkemba — reported as being the best from one reporter here, and a couple from New Zealand. Rima — bred by our Grant E. Mitsch, well nothing got better plugs. On the small order, Chiffon and Roseworthy. Both are classed as improved Wild Rose. Roseworthy has the pinkest cup of all, according to most reports. The little Stray Pink is certainly a most attractive and dainty flower. Fintona looked good on a one year trial. Pink Isle opens a light pink and stays so.

The 1958 American Miniature Daffodil Symposium

HELEN C. SCORGIE, Harvard, Massachusetts

THE reporters on this year's panel on minatures are all successful growers of the wee daffodils, and a few rank by any standard as experts. Their selections were based on permanence in their gardens and on freedom of bloom as well as the high quality of the flowers. For the gardener who wants to try out a few, the lists below offer a considerable field for selection of varieties that the prospective grower will find reliable and varied.

Most will grow well in any part of the country, otherwise, they would not have gained sufficient support among the reporters to have made these lists. The hardiness of a very few might be questioned in the north and a few others are scant of bloom in warmer parts. The garden hybrids, as a rule, grow more freely. They increase by bulb division as do the taller daffodils. In some of the species, however, there is little splitting, and increase is best obtained by seeds.

ITEM No. 1. Species and Wild Hybrids under 5 inches.

1. *N. watieri*
2. *N. rupicola*
3. *N. triandrus* var. *albus*.
4. *N. cyclamineus*
5. *N. × tenuior*

The glistening white little *N. watieri* was overwhelmingly first choice. In a few gardens, it was reported as growing beyond the five inches, but this appeared to have no relation to the climate. It might be due to the soil or to a variation in the wild stock from which it came.

ITEM No. 2. Species and Wild Hybrids over 5 inches, but not over 10 inches.

1. *N. jonquilla* (*jonquilla simplex*)
2. *N. pseudo-narcissus* subsp. *moschatus* (*moschatus*)
3. *N. bulbocodium* subsp. *vulgaris* var. *conspicuus* (*bulbocodium conspicuus*)
4. *N. triandrus* var. *loiseleurii* (*loiseleurii*)
5. *N.* × *tenuior*

Here, the voting was very close. A variation in size was shown, markedly for × *tenuior*, which would have ranked much higher in either group otherwise. This group would offer a good selection for the beginner to try as there is considerable difference in color and shape and a very long blooming season.

ITEM No. 3. All Divisions except 10. Garden Hybrids 5 inches or under.

- | | |
|-------------|------------------|
| 1. Raindrop | 6. Pease-blossom |
| 2. Wee Bee | 7. Tête-a-Tête |
| 3. Flomay | 8. Elfhorn |
| 4. Nylon | 9. Sneazy |
| 5. Tanagra | 10. Marionette |

Raindrop was easily first here. It was reported happy from New England to South Carolina and in the Pacific Northwest. Although classed as 5*b*, it strongly shows its *tazetta* relationship. With *N. juncifolius* as a remote ancestor of its hybrid *tazetta* parents, *N.* × *dubius*. There should be exciting possibilities with it as a parent.

It is surprising that the winter-blooming Nylon should be so high on the list. Where winter thaws are prevalent, it needs the protection of a glass light to prevent destruction of its leaves, a sure death to any daffodil.

ITEM No. 4. All Divisions except 10. Garden Hybrids over 5 inches, but not over 10 inches.

- | | |
|----------------|------------------|
| 1. April Tears | 6. Sun Disc |
| 2. Hawera | 7. Frosty Morn |
| 3. Xit | 8. Lady Bee |
| 4. Beryl | 9. Samba |
| 5. Kidling | 10. Orange Queen |

April Tears and Hawera were close contestants for first place. They have the same parents, though not from the same pod, and look very much alike. Hawera is somewhat earlier and less trim in appearance. April Tears loses out in the deep South where it is chary of bloom but stands high on many lists from Virginia and the adjacent states.

It is interesting to note Beryl so high on the list. This little *cyclamineus* hybrid with a poet for the other parent is over fifty years old but its worth did not gain recognition till twenty years had past. Orange Queen has also passed the half century mark and its clear, glowing color is a joy forever. Both these little ancients do well in all parts of the country.

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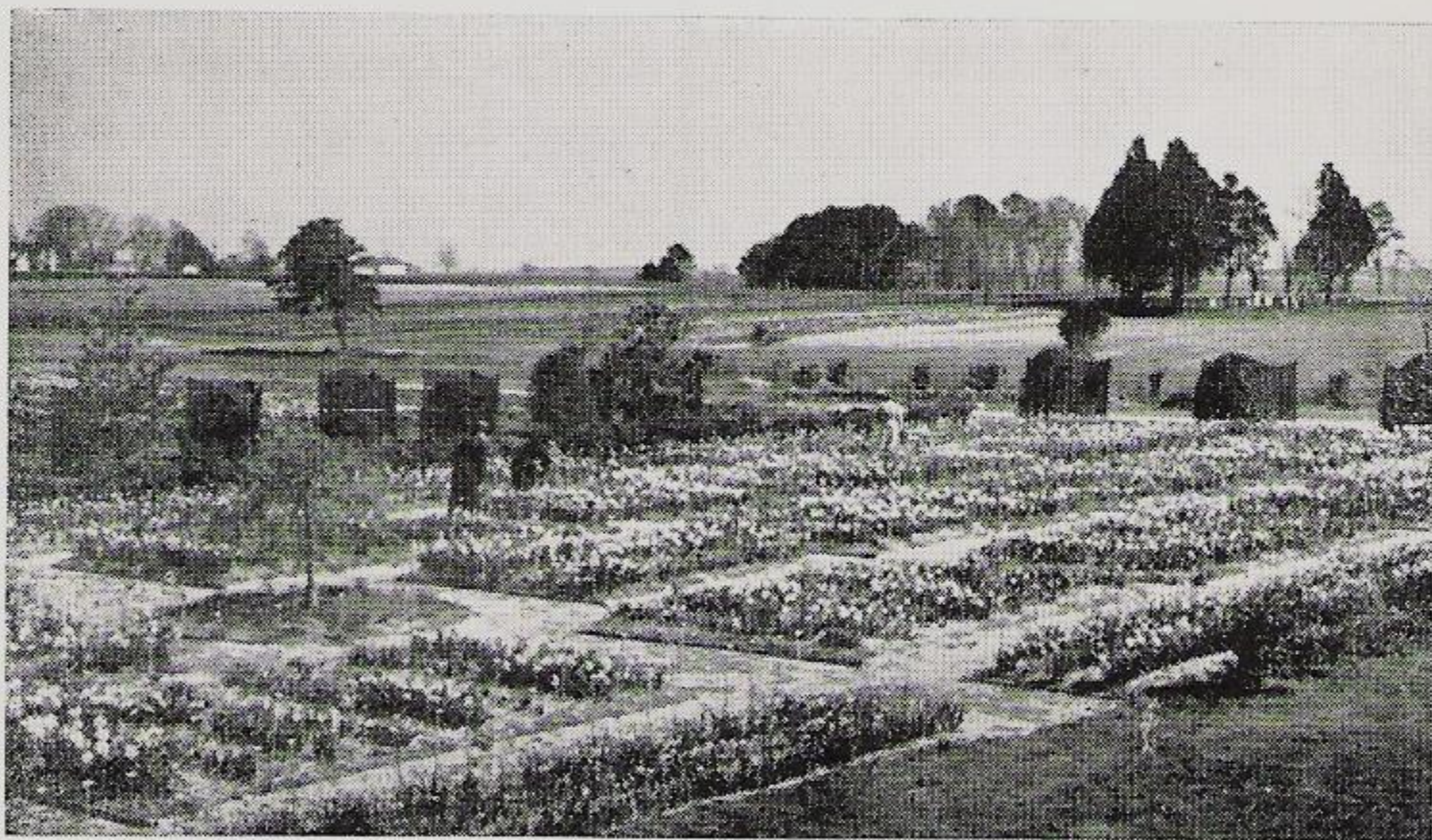
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 Mrs. John A. Clem, III, "Topside," Staunton
 Mrs. Thomas B. Cochran, 507 N. View Terrace, Alexandria
 Mrs. Chesterman Constaine, Gloucester
 Charles W. Culpepper, 4435 Pershing Drive, Arlington
 Mrs. Paul M. Curran, Route No. 5, Box 310, Fairfax
 Mrs. W. Fairlie Dabney, Gloucester
 Mrs. R. N. Darden, Jr., Box 116, Newsoms
 Richard N. Darden, Jr., Box 116 Newsoms
 Mrs. Arthur A. Dugdale, P. O. Box 25, Ashland
 Mrs. John D. Durbin, 308 Duke St., Alexandria
 Prescott B. Edmunds, 4325 Greenway Court, Lynchburg
 Mrs. Clayton B. Ethridge, Wakefield Chapel Road, Burke
 Mrs. Hugh B. Flippen, Jr., 133 Hanover St., Ashland
 Mrs. W. Kent Ford, 72 Bath St., Clifton Forge
 Mrs. W. Wayt Gibbs, Gibbs Hill Cottage, Box 870, Staunton
 W. E. J. Gottshall, 227 E. Mason Avenue, Alexandria
 Mrs. Bruce Gunnell, Boxwood, Rt. 6, Franconia Road, Alexandria
 Mrs. J. S. Hardy, 504 Euclid Ave., Lynchburg
 Mrs. H. W. Harris, 414 Franklin St., Alexandria
 Mrs. J. B. Harris, Sr., 2213 Ross Lane S. W., Roanoke
 Mrs. W. H. Harris, 6500 Hull Street Road, Richmond 24
 Mrs. Malcolm D. Hart, 404 College Ave., Ashland
 Thomas E. Haymaker, P. O. Box 204, Fincastle
 George W. Heath, The Daffodil Mart, Nuttall Rural Sta. Gloucester Co.
 Mrs. Henry T. Holladay, Jr., Red Rock, Rapidan
 Mrs. Harry Hopewell, Gloucester

VIRGINIA, continued

Mrs. Selina L. Hopkins, Nuttall, Gloucester Co.
 Mrs. Wally K. Hopkins, 323 South Fairfax St., Alexandria
 Mrs. G. Lyle Hughes, Wicomico Church
 Mrs. Stanhope S. Johnson, 2600 Link Road, Lynchburg
 Mrs. Arthur H. Jones, "Somerset" Somerset Station
 Mrs. Lewis Jones, Urbanna
 Mrs. Wm. Carpenter Jones, 4910 Evelyn Byrd Ave., Richmond 25
 Judge Dirk A. Kuyk, 2827 Wilton Road, S. W., Roanoke
 Mrs. A. Slater Lamond, 1280 Fort Hunt Rd., Alexandria
 Mrs. E. E. Lawler, Jr., P. O. Box 327, Alexandria
 Mrs. William Lawrence, Jr., Fairmont Avenue, Winchester
 Mrs. Robert E. Lee, 2021 Spottswood Road, Charlottesville
 Mrs. Wally W. Levi, 605 Third Street, Radford
 Mrs. C. H. Luce, 3 W. Belle Grove Road, Belle Haven, Alexandria
 Mrs. Claude Mahoney, RFD 4, Box 694, Fairfax
 Mrs. Richard C. Marshall, 1 Fort Drive, Belle Haven, Alexandria
 Mrs. James Bland Martin, Kittery Point, Gloucester
 Mrs. Malcolm Matheson, Jr., "Ferry Point," Mount Vernon
 Mrs. Orville C. Matthews, "Ide Hour" Hot Springs
 Mrs. Archer D. Mayes, Stony Creek
 Mrs. F. Wallace McClung, Box 591 Covington
 Mrs. John A. McDonald, 214 Fudge Street, Covington
 Louis McDonald, 516 Victoria Ave., Lynchburg
 L. G. McNairy, 5809 - 9th Rd., North, Arlington
 Mrs. L. H. Mears, "Holly Brook" Eastville
 Miss Mary T. Metzger, Leesburg
 Mrs. Ellis Middleton, Route 5 Box 250 Fairfax
 Mrs. Llewellyn Miller, 8 Brook Road, Farmington, Charlottesville
 Mrs. Richard G. Miller, 1201 Westland St., Charlottesville
 Mrs. Whitehead Motley, Wide Acres, Chatham
 Orville W. Neisz, Sr., River Bend Daffodil Garden, Rt. 14, Box 260, Richmond 23
 Mrs. Orville W. Neisz, Sr., River Bend Daffodil Garden, Rt. 14 Box 260, Richmond 23
 Mrs. Marshall A. Norford, Route 2, Box 94, "Mapleton," McLean
 Mrs. D. H. Patterson-Knight, "Hidden Acres," Rt. 1, McLean
 Mrs. W. J. Pearman, 4025 Mud Lick Road, S. W., Roanoke
 Mrs. Lewis S. Pendleton, "Whitehall," Cuckoo
 Mrs. W. Allan Perkins, 924 Rugby Road, Charlottesville
 Mrs. W. J. Perry, 1500 Dogwood Rd., Staunton

VIRGINIA, continued

Henry MacRae Pinner, Box 155,
Suffolk
Mrs. Henry McRae Pinner, Box 155,
Suffolk
(C) Mrs. Theodore Pratt, "Little
England," Bena
Mrs. Burton J. Ray, 808 Clay Street,
Franklin
Mrs. C. Lathrop Reed, Box 60, Route
13, Richmond
Mrs. John A. Ridley, Stony Creek
Mrs. John P. Robinson, 930 South
Asaph St., Alexandria
Mrs. Paul E. Sackett, 2003 Link Road,
Lynchburg
Mrs. Ralph E. Sampson, 4622 N. 32nd
Street, Arlington 7
Mrs. William C. Seipp, Brook Hill
Farm, Middleburg
Mrs. Herman E. Sidwell, 422 Leonard
Road, Falls Church
Mrs. A. B. Slagle, Clarksville
Mrs. John B. Spotswood, Wicomico,
Gloucester Co.
Mrs. George Steedman, 2512 Oregon
Ave., Roanoke
Mrs. R. A. Stokes, Englewood Road,
Lynchburg
Mrs. Evelyn D. Swift, Remo
Mrs. William Kirkham Taylor,
Box 158 Clarksville
Miss Sarah Terry, 79 Oakville Road,
Hampton
Mrs. Lewis P. Thomas, 2247 Sewell
Lane, S. W., Roanoke
F. A. Traylor, 563 Riverview Road,
Colonial Heights
(S) Harry T. Tuggle, Jr., 709 E. Indian
Trail, Martinsville
(S) Mrs. John Tyssowski, Cobbler
Mountain Farms, Delaplaine
Mrs. Omer Oscar Utt, 406 Euclid Ave.,
Lynchburg
Mrs. C. E. Vassar, 211 Franklin Street,
South Hill
Mrs. Charles E. Via, 2302 Carter
Road S. W., Roanoke 15
(S) Mrs. J. Robert Walker, 501 Mul-
berry St., Martinsville
Mrs. L. R. Wallace, Route 4, Box 151,
Alexandria
Gerald D. Waltz, Rt. 1, Box 150, Salem
Mrs. James Warren, Jr., 17 Grace
Street, Harrisonburg
Mrs. Robert R. Wheat, Gunston Cove
Cottage, Lorton
Willis H. Wheeler, 3171 N. Quincy St.,
Arlington 7
Mrs. Robert Whiting, 6303 Park Street,
Pinecrest, Alexandria
Mrs. James C. Wilkinson, Hey Road,
Richmond 24
Mrs. Berkeley Williams, Jr., 264 Alber-
marle Avenue, Richmond 26
Miss Elma H. Williams, "Berry Hill,"
Orange
Mrs. W. Clayton Williams, "Yattan,"
Orange
Mrs. Flechter D. Woodward, 1326
Rugby Road, Charlottesville
Mrs. Lionel Wynne-Roberts, Brock
Spring, R. R. 2, Ashland

WASHINGTON

Mrs. Richard Bradbury, 612 Grand
Ave., Vancouver
C. J. Gould, Western Washington Ex-
periment Station, Puyallup
R. P. Loomis, Box 397, Bellingham
(L) Mrs. Alfred H. Monahan, 1315
Tower Avenue, Raymond
Mrs. W. D. Terry, 1531 Axion Road,
Bellingham
J. N. Wilbert, E-14705 Trent Ave.,
Trentwood 69
C. L. Zimmerman, Route 1, Box 742
Vashon

WEST VIRGINIA

Mrs. Ernest J. Adams, 1121 Twelfth
Ave., Huntington 1
Elmo L. Agee, 2405 Mountain View
Avenue, Bluefield
Mrs. Pansy T. Agee, 2405 Mountain
View Ave., Bluefield
Mrs. Russell B. Bailey, Howard Place,
Wheeling
Mrs. Alex Booth 145 Ridgewood Road,
Huntington 1
Mrs. Virgil H. Burgess, 2641 - 1 Ave.
Huntington
Mrs. Anna Fae Dawson, 124 Locust
Ave., Spencer
Mrs. E. E. Deitz, 6155 Pea Ridge
Road, Huntington
Mrs. Joe W. Dingess, 151 Kings High-
way, Roland Park, Huntington
Mrs. R. H. Dollison, 727 Mt. Vernon
Ave., Fairmont
Mrs. T. W. Dulaney, 56 South
Kanawha St., Buckhannon
Mrs. J. A. Ewing, 104 Fairfax Drive,
Huntington
Mrs. Percy Gillie, 4 Whitehorn Lane,
Bluefield
Mrs. George H. Gunnoe, 723 Third St.,
South Side, Huntington
George H. Gunnoe 723 Third St.,
South Side, Huntington 1
Mrs. Walter W. Johnson, 5475 Pea
Ridge Road, Huntington
Mrs. Cecil F. Johnston, 609 Oakhurst,
Bluefield
Mrs. A. L. Kouns, Box 732,
Huntington 11
Mrs. Carlton R. Mabley, Jr., 812 - 13th
Ave., Huntington 1
Mrs. Norman E. McGinnis, 5505 Pea
Ridge Road Huntington
Stewart, McReynolds, 703 Mulberry
Ave., Clarksburg
Mrs. Lewis A. Miller, 2203 - 3 Avenue,
Huntington 3
Mrs. S. R. Morrow, 13 Poplar St.,
Wheeling
Mrs. C. H. Pike, 905 Overlook Way,
South Charleston 3
Mrs. George Poling 3919 - 11th
Avenue, Parkersburg
Mrs. C. R. Powell, Salem
Mrs. Gray Risen, 125 Ridgewood
Road, Huntington

WEST VIRGINIA, continued

- Mrs. Larry Schavul, 55 South
Altamont Road, Huntington
- Mrs. H. Pinkney Schley, Box 13,
Shepherdstown
- Mrs. Humphrey Smith 515 Oakhurst,
Bluefield
- Mrs. A. W. Steller, 100 Mahood
Avenue, Princeton
- W. L. Tolstead, Davis and Elkins
College, Elkins
- Mrs. Donald C. VanEtten, 808 Hamil-
ton Circle, Charleston 1
- Mrs. Paige G. Westfall, Route 5,
Parkersburg
- Mrs. H. H. Williams, "Popodicon,"
Shepherdstown
- Mrs. John R. Witt, 204 Oakdell Ave.,
Bluefield
- Mrs. Blenna H. Young, 233 Virginia
St., Charleston

WISCONSIN

- D Harry Moland, Washburn

WYOMING

- Mrs. Horace Mann, 1404 W. 13th
Street, Casper

AUSTRALIA

- J. N. Hancock, Lyndale Gardens,
Gledfern Rd., Fern Tree Gully,
Victoria, Australia

CANADA

- Mrs. William Dennison, R. R. 2 Lad-
ner, British Columbia, Canada
- Frank E. C. Smith, Box 128,
Lillooet, B. C., Canada

NOVA SCOTIA

- Mrs. F. M. Graves, Bridgeton,
Annapolis County, Nova Scotia
- Miss Ruby Pulsiver, R. N., Box 37,
Nova Scotia

ENGLAND

- Tom Blanchard, Wilverley, Blandford
Forum, Dorset, England
- Sampson Clay, Merlin, Clapton-in-
Gordano, nr. Bristol, England
- Alec Gray, Treswithian Daffodil Farm,
Camborne, Cornwall, England
- W. J. Green, Pilgrims' Cottage,
Haynes, Bedford, England
- Royal Horticultural Society, Vincent
Square, London S W 1, England
- John Swain, The Seedhouse, Bristol 1,
England
- (L) C. R. Wootten, 119 Bloxwich,
Walsall, England

HOLLAND

- J. Heemskerck, Care of P. V. Deurser,
Sassenheim, Holland

IRELAND

- J. Lionel Richardson, Prospect House,
Waterford, Ireland

NEW ZEALAND

- Eric Bell, Ophir, Central Otago,
South Island, New Zealand
- G. A. Challies, P. O. Box 10,
Lyttelton, New Zealand

NORTH IRELAND

- W. J. Dunlop, Dunrobin Farm,
Broughshane-Ballymena, Co. Antrim,
North Ireland
- (L) Guy L. Wilson, Broughshane-
Ballymena, Co. Antrim, North
Ireland

