

THE 1960
AMERICAN
DAFFODIL
YEARBOOK

The American Daffodil Society, Inc.

The
American Daffodil
Yearbook
1960

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AMERICAN DAFFODIL SOCIETY, INC.

MRS. ERNEST J. ADAMS, *Secretary*

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Preface

Despite the illness of our Managing Editor that has resulted in some unavoidable delays, the 1960 Year Book will reach you well before you can work in the garden again. Your Editor believes the Year Book well worth the extra wait.

Willis Wheeler has given us an easy reading but authoritative resume on Plant Breeding that we needed. The same comment can be made on Mr. Dunlop's down-to-earth summary on a Cool Greenhouse. We are anxious for more of our American fanciers to learn to use a Cool Greenhouse because it will give you daffodils six weeks to two months earlier. We are honored to have Mrs. Barton's article on arranging daffodils — even your editor can understand it! We believe no one can fail to enjoy Kitty Bloomer's report on English and Irish Daffodils — the most refreshing thing we have read recently. Harry Tuggle has done a masterful job on the Symposium that we know everyone will read and enjoy. We liked Harry's emphasis on pointing up the likely novelties for us to try. Dr. Scorgie gives us a round summary on miniatures — full of meat. Jan de Graaff reviews and previews the present and future in his usual appealing fashion. Willis Wheeler and the younger van Slogteren give us a fascinating picture of that grand Dutchman, Professor Dr. van Slogteren incident to presenting him with our first Gold Medal. There are many other gems in the 1960 Year Book — not to forget some intriguing pictures. We are as happy as confident in recommending it to you.

Your entire editorial staff wishes every daffodil enthusiast a Happy New Year.

CAREY E. QUINN

Editor

Table of Contents

	PAGE
FIRST GOLD MEDAL OF THE AMERICAN DAFFODIL SOCIETY AWARDED PROF. DR. E. VAN SLOGTEREN OF THE NETHERLANDS, <i>Willis H. Wheeler</i>	7
PROFESSOR DR. E. VAN SLOGTEREN, BIOGRAPHY, <i>Ingenieur D. H. M. van Slogteren</i>	9
DAFFODILS — A REVIEW AND PREVIEW, <i>Jan de Graaff</i>	10
CHROMOSOME NUMBERS IN THE GENUS NARCISSUS, <i>Willis H. Wheeler</i>	20
AN INNOCENT ABROAD, <i>Katherine L. Bloomer</i>	22
GOLDEN SPUR IN THE MIDWEST, <i>W. L. Tolstead</i>	28
THE STORY OF ARMADA, <i>Matthew Zandbergen</i>	30
AND THAT'S HOW THE DAFFODIL GOT ITS NAME, <i>Charles R. Phillips</i>	33
CERTAIN FUNDAMENTALS OF PLANT BREEDING, <i>Willis H. Wheeler</i>	37
LABELS AND MARKERS, <i>Willard A. King</i>	45
THE DAFFODIL ARRANGEMENT, <i>Mrs. W. H. Barton</i>	46
WAYS OF USING DAFFODILS, <i>Estelle Sharp</i>	48
WORST WINTER WORRIES AND SOME SIMPLE SOLUTIONS, <i>Elizabeth T. Capen</i>	52
JUDGING EXHIBITION DAFFODILS, <i>Helen K. Link</i>	57
DAFFODILS IN THE COOL GREENHOUSE, <i>W. J. Dunlop</i>	60
SUMMER CARE OF DAFFODILS IN THE NORTH, <i>Stanley H. Woleben</i>	63
COLOR IN DAFFODILS, <i>Mrs. W. J. Perry</i>	65
DAFFODILS IN OREGON, <i>Allen W. Davis</i>	69
REPORT OF REGISTRATION AND CLASSIFICATION COMMITTEE, <i>Edith H. Walker</i>	71
1959 REGISTRATIONS, AMERICAN DAFFODIL SOCIETY, <i>Mrs. Walter Colquitt</i>	74
THE 1959 AMERICAN DAFFODIL SYMPOSIUM, <i>Harry I. Tuggle, Jr.</i>	76
THE 1959 AMERICAN MINIATURE DAFFODIL SYMPOSIUM, <i>Helen C. Scorgie</i>	88
DIRECTORY	103



Professor Dr. E. van Slogteren receives the American Daffodil Society's first Gold Medal from Willis H. Wheeler.

First Gold Medal of the American Daffodil Society Awarded Prof. Dr. E. van Slogteren of the Netherlands

WILLIS H. WHEELER, Arlington, Virginia
Second Vice President, American Daffodil Society

DURING the regular sessions of the fourth annual meeting of the American Daffodil Society, held in Philadelphia, Pennsylvania, the latter part of April, 1959, the Board of Directors voted to award the Society's first gold medal to Prof. Dr. E. van Slogteren, formerly Director of the famed Laboratorium voor Bloembollenonderzoek at Lisse in the Netherlands. Since I was planning to be in that country during the same summer I was instructed to make the presentation of the medal.

When informed of the award the officials of the Associated Bulb Growers of Holland cooperated in making arrangements for the ceremony which took place on the afternoon of July 30, 1959. At that time a good representative group of bulb growers and exporters met in the beautiful auditorium of the Laboratorium to enjoy a social time which was followed by the presentation. The statement made at that time follows:

"This afternoon we are privileged to gather here to do honor to one of your countrymen, a scientist of world-renown in the fields of plant pathology and bulb research. For long years he labored in these laboratories. At first his facilities were small, but not his accomplishments. And as the years passed and his fame grew, those who recognized what he was doing for the horticulture and agriculture of the Netherlands saw to it that more laboratories were provided, until now this magnificent group of buildings here in Lisse stand as a memorial to his years of accomplishment.

"Today this institution is known throughout the world by plant scientists for what it has done under the leadership of

Professor Dr. E. van Slogteren, and I am sure a continuing number of accomplishments of significance will continue to appear under the guidance of its new director, Dr. van der Want.

“Outstanding among the contributions to the horticultural success of this nation are the things Prof. van Slogteren has done for the daffodil and the genus *Narcissus*. In the earlier years of this century the bulb and stem nematode threatened the daffodil cultures of this and other lands. The professor met this challenge and today the hot water treatment of daffodil bulbs is a standard procedure that gives us Dutch daffodils free of eelworm and certain other pests.

“Later the professor and his staff turned their attention to other disease problems of the daffodil. For many years certain daffodils showed abnormalities of the leaves and flowers believed to be caused by virus infections. Various phytopathologists in several countries worked on this problem without definite success, but in the 1940’s Professor van Slogteren and his laboratory gave us the answer. He was able to demonstrate by long and patient work that the diseases were caused by certain viruses, and he showed that they were aphis-transmitted. With this knowledge the bulb growers were better able to take the necessary steps to eliminate the trouble.

“In view of these and other accomplishments the Board of Directors of The American Daffodil Society, at the fourth annual meeting of the society, held in Philadelphia, Pennsylvania, in April of the present year, named Professor Dr. E. van Slogteren as the first recipient of its gold medal. Under the terms of the award this medal shall be given no more frequently than once a year in recognition of accomplishments of a pre-eminent nature in the advancement of daffodil culture. Professor, it is with a great deal of pleasure that I present to you, my esteemed friend, this gold medal of The American Daffodil Society, to be added to the many other richly deserved awards you have received through the years.”

Professor van Slogteren responded to express his appreciation for this recognition of his work with the genus *Narcissus*, and added that he was especially grateful that he had been chosen as the first recipient of the Society’s Gold Medal.

Professor Dr. E. van Slogteren

A Biography By His Son
INGENIEUR D. H. M. VAN SLOGTEREN

EGBERTUS VAN SLOGTEREN was born in the northern part of the Netherlands in the city of Groningen, on April 9, 1888. His schooling was there, in the field of biology. In 1917 he received his doctor's degree, *cum laude*, from the University of Groningen. His doctor's thesis dealt with "The Gas Movement in the Leaf, as it is Related to the Stomata and the Intercellular Spaces."

During World War I my father served as a reserve officer in the Dutch army, in the position of first lieutenant. In that same year of 1917, on April 11th he was chosen as phytopathologist for the bulb growing area of Holland. Eight years later, in 1925, he became a professor at Wageningen University, in the city of that name, thus earning the coveted titled of "Professor," which in the Netherlands is a title of more distinction than "Doctor." In the same year he became an honorary member of the Royal Horticultural Society of England and through the years has contributed articles for its publications. Possibly the most important one for daffodil growers was one on virus diseases of narcissus, which appeared in The Daffodil and Tulip Yearbook for 1946. In 1938 the same Society had honored my father for his work with daffodils by presenting him with "The Peter Barr Memorial Cup." Similarly, the American Horticultural Society presented him with its citation in Washington, D. C., on October 28, 1955. It honored him for his contributions to horticulture.

The year 1942 brought membership to my father in the Dutch Society of Sciences (Hollandse Maatschappij van Wetenschappen). Five years before, in 1937, he had been made a knight in the Order of the Dutch Lion. Finally, in 1955, he was nominated to membership in the Royal Academy of Sciences (Koninklijke Akademie voor Wetenschappen), an honor of great distinction.

The International Botanical Congress met in Ithaca, New York, in 1926. At that meeting my father was chairman of the Phytopathological Section. He also visited the United States on three other occasions which I have not mentioned, the years being 1922, 1925, and 1936. Thus he came to know America and its people.

For some years past the cocoa culture of the Gold Coast of Africa has suffered from the "swollen shoot disease," caused by a virus infection. Because of the importance of the disease the British government decided, in 1948, to seek the assistance of authorities on the subject of virus diseases of plants. Dr. Berkeley of Canada, Dr. Carter of the United States, and my father composed the committee that went to the Gold Coast to study the cocoa disease.

From the year 1917, when my father began his bulb work, until 1958, the time of his retirement, he labored to solve the problems of the bulb growers, as well as the problems of crops of certain other growers. Many of those same problems were eliminated, one after another. During those years, as his accomplishments grew, those who supported his work saw to it that better and better facilities were provided for the conduct of necessary research, until today the Laboratorium voor Bloembollenonderzoek (flower bulb research) is one of the best in the world. Now, while officially retired, he serves the same laboratory in an advisory capacity, and the year 1959 will be a happy one in his memory because of the honor the American Daffodil Society did him in awarding him its first gold medal.

Daffodils - A Review and Preview

JAN DE GRAAFF, Gresham, Oregon

IN March, 1958, at our annual meeting in Atlanta, we listened to an address by John Wister. I am sure I was not the only one, among the large number of people enjoying this talk, who was thrilled to recognize so many old friends among the daffodil personalities and varieties described. Following the same path, let me tell you a little more about old daffodils and the people behind them. I am going back to some varieties even older than those mentioned by John Wister. From this review I hope to draw conclusions that may have significance in determining what is ahead of us. All of us want to know what the future holds. It is my conviction that the answer, at least as far as daffodils are concerned, lies in the past.

To me such a review of the past has all the more meaning, since I have recently driven some 4,500 miles through the southern part of this country, as well as even greater mileage through the south of France and Italy. On this trip, which started after the first of the present year, I saw enormous numbers of daffodils — in fields, in hedgerows, and in gardens and orchards — masses of dancing flowers, not once, but hundreds of times, worthy of the best of modern color photography. Looking at these daffodils which seemed to follow me from southern Italy all the way back to my home in Oregon, I came to the conclusion that they were really good.

On the hills above Positano and Sorrento in Italy, in the vineyards of the French Riviera and Provence, in the gardens of our South, daffodils of one kind or another grow and flower, from year to year, as they must have done for a very long time. They grow without care or attention. They are picked, their foliage is cut or mowed along with the grass. They are trampled on, dug up and thrown out, only to grow again where they land.

Obviously there is an amazing strength in those daffodils. That strength, that power to survive, as all of us here know, has largely been lost in the modern show daffodil. There is another quality, too, in the older daffodils — a beauty, a balance, something that I might call a personality, which is absent in many of the famous show flowers. I know that this sounds like heresy, but I speak from the vantage point of some forty years of actual experience, growing an average of about a hundred acres of daffodils per year.

In those forty years I have formed many collections of novelties, partly by purchase from all over the world and partly by hybridizing. In my commercial operation, we did not just plant these daffodils in a garden setting to enjoy them. They were grown in actual field plantings, in comparison with one another. Their performance, both as to flowering and rate of propagation, bulb type, and susceptibility to disease, was carefully checked. It is these collections of daffodils, the cream from some two thousand varieties that have gone through my hands, that I have presented to the American dealers and gardeners through catalogs, articles in the gardening papers, color plates and other promotion. This collection, which has changed from year to year as I discarded varieties in favor of better ones, now holds a mere two hundred varieties. I have weeded it out, balanced it, and I have constantly tried to

keep in mind the ultimate use to which these daffodils would be put — the American garden.

This process of eliminating poor varieties, of selecting better ones, of constantly hunting for the best that is being offered from abroad and testing it against what is already here, is a fascinating one. I have tried for an equal representation of all types, early and late varieties, whites, yellows and bicolors, of *triandrus* and *jonquilla* hybrids. I did so in the belief that the great American public would grow up to appreciate these variations on the daffodil theme. Judging by the growing membership of our Society, by the increasing number of daffodil fanciers all over the country, and by my increasing sales, I can say that there has been some success in this work.

Yet I have serious doubt that the daffodils bought by the general public today answer their need. Good as the modern daffodil is, it is not good enough.

My objections to these varieties are twofold. One is that they have been bred and selected for show purposes — not for the garden. The other is that this breeding and selecting has gone on in climates totally different from our own. Two influences, then, have controlled the ultimate choice — one is environment, soil and climate; the other is the human factor. I believe both have been wrong.

Right here I want to interpolate two questions. How much time elapses from the day a variety first flowers and is selected for further propagation, until its retail price drops, say, to twenty cents a bulb? Without much research, I should put this at thirty years. How soon can a grower tell whether a variety has those values that will make it a good commercial producer, this apart from the beauty of the flower? I should put this at a minimum of seven years. We then have this problem, the hybridizer may select a hundred "numbers" per year for further observation. He must grow each of these for seven years, transplanting them at the very least every two years. That means 700 stakes, transplanting one hundred lots four times or more, making field notes on each, keeping records on each, and that is only for a relatively small selection of one hundred clones for one year. The next year there is another one hundred and so on. Without doubt, a serious daffodil breeder will soon have some 3,000 lots to observe, to transplant, and to record, before

he can even be certain which ones of his earlier efforts he may discard.

As one who has done that, not with just one hundred but with many hundreds of lots for many years, I can vouch for this further fact. Sometimes you do not find out until ten or twelve years later just what factors you are dealing with in a new daffodil. Perhaps only when you lift a large stock and start taking out the saleable bulbs, the nice doublenoses and the big rounds, will you find that you have nothing left; or that there are none but big and ugly mother bulbs in the stock; or that for some strange reason the stock splits up into many slabs and will not form good bulbs at all.

Then add the enormous cost of what I should call promotion; that is, the cost of photography, color printing, just giving a new variety space in the catalogs. This, for us in America, is totally different business than for the British raisers, with their inexpensive black and white catalogs and without the years of testing. They can feature new varieties each year, and for them a dozen or so bulbs of each are sufficiently large stock to warrant introduction. For us, this opportunity and this market do not exist.

In order to put all this in its proper perspective, I should like to review briefly the history of the cultivated daffodil. Apart from the sporadic occurrence of the wild Spanish and Portuguese daffodils, the first cultivated varieties in the Northern Hemisphere were the multiflowered ones, the polyanthus types and the Paperwhite. Almost four hundred years ago, these polyanthus daffodils, both in single and double forms, were brought first from Constantinople to the south of France and later on, from there to Holland. These daffodils were not then known in the wild. They have, in fact, never been found as wild plants. They were already then cultivated varieties. In 1788 one Dutch firm offered as many as 154 varieties. This list includes the old Soleil d'Or, still grown today, and several others that can still be found.

Apart from these polyanthus daffodils, there were only a few others offered. Sir Watkin, known to most of us here, was found in 1868, growing wild on an estate in England. In 1884 the entire stock was sold and the variety named for Sir Watkin Williams Wynn. It was around that time, too, that gardeners began to show an interest in daffodils other than the polyanthus types. In 1874 Peter Barr drew the attention of a group of prominent growers to the collection of Edward Leeds. I shall quote the famous letter

that led eventually to the acquisition of this grand collection by Barr and others, my grandfather among them.

“April 21, 1874.

“There lives in our country an old gentleman called Mr. Leeds. For 30 years he has been crossing and seeding Narcissus, with the view of producing new forms and to a certain extent he has succeeded, as Mr. Polman Mooy can inform you. There are bicolors, majors, poeticus, incomparabilis, all shades from white to yellow and intermediate forms between incomparabilis and montanus and many other unique crosses. Now this said old gentleman is getting very infirm and wants to sell his collection. He has a large quantity of bulbs and they are all to be given up to the purchaser for the sum of one hundred guineas.

“Now Mr. Polman Mooy has entered his name as a subscriber of 10 guineas. We have done so too and three other gentlemen amateurs have likewise put their names down for 10 guineas each.

“Now as Narcissus are on the ascendant, shall we put down your name for 10 guineas? We believe it will be a very good speculation and another thing, we believe that, if the collection is not very soon bought, it will be destroyed, as the old man has put it in his will, if not sold before his death, it is to be destroyed. Drop us a line.

“Yours truly,

“P. Barr.”

The collection was finally bought by Peter Barr, who retained half and the other half was split between two Dutch firms. Our firm, de Graaff Brothers, was asked to grow the stocks bought by Barr.

Let me give you a few other dates. In 1865 William Backhouse raised Emperor and Empress. In 1887 my grandfather showed Madame de Graaff and Glory of Leiden, the first really high-priced varieties. This renewed interest in daffodils of all types made people search again for old ones. The famous variety Golden Spur was found in 1885 on an estate in Holland. The first popular monograph on daffodils is Burbidge's book that appeared in 1875.

The first daffodil conference was sponsored by the Royal Horticultural Society in 1884.

By the turn of the century firms like E. H. Krelage & Son and Warnaar & Company started raising new daffodils. The famous white trumpet variety, Mrs. E. H. Krelage, was first shown in 1912, while Golden Harvest, the first serious rival of King Alfred, was introduced in 1927. Unsurpassable, a much better variety, came along in 1929.

Gradually a difference between the Dutch and the British introductions began to show up. I would say that this became evident right after the first World War. This difference showed not only in the type of flowers that were favored, but also in the varieties chosen for mass production. It was essentially the difference between the Dutch breeders, who were thinking of world markets, and the British, who were thinking of the show benches of the Royal Horticultural Society.

This difference, then, points to what is essentially the human factor in daffodil breeding and daffodil selection. It is a point that has been overlooked, but it is far too important to forget. I mention it so that all of us can give some thought to it. Perhaps, collectively, we shall come up with some good answers.

This human factor enters into daffodil breeding at many stages. First of all there is the selection of the material with which to breed. That represents taste, a leaning toward certain colors and forms; usually an ideal, however vague it may be. The day that one could carelessly dust some pollen from one daffodil on the stigma of another, raise the seeds and eventually find a magnificent novelty among the seedlings, is gone. Those careless, happy days disappeared some forty years ago.

Let us now look at environment as an influence on daffodil breeding, without the human element. Soon we shall see that man cannot be left out of that picture, but first, consider the daffodil that is about to be pollinated. On one nice spring day the bloom will have opened; the stigma of the daffodil flower is in a duly receptive condition; pollen is applied by bees, the wind, or by some other means. It is the environment, then, in the form of climate that made the stigma ready, the pollen ripe. It is climate again that determines which of the many little seeds will grow to maturity. And again it is climate that determines which of those seeds will grow into flowering plants. There is an enormous choice, a selection that



Exhibit at the 1959 International Flower Show, New York City, prepared by members of the Northeast Region, ADS.

is being controlled by environment. This includes such matters as length of day, hours of sunlight, and relative humidity, which could all be classed as climate, and relative acidity of the soil, soil structure and composition, which I group under the simple heading of soil.

The climate in which the hybridizing is done is of great importance. George Heath mentions in his price list that most of the daffodils now in commerce were raised in a climate unlike anything we experience here in the United States. Those from Ireland are from a latitude of about 55 degrees north, others from Holland only a few degrees further south. To give them a similar location in this country they would have to be planted on the shores of James Bay in eastern Canada, approximately 1500 miles north of Washington, D. C.

Now this is, of course, correct as far as it goes, but it is not the whole story. The climate of both Ireland and Holland is very much modified by the Gulf Stream and by other factors. The bulbs are raised on the western shores of the ocean, not on the eastern shore. For those reasons the comparison is not valid.

Just the same, it is true that these daffodils are bred and selected in a climate very much different from, let us say, that of Philadelphia or Washington, D. C. By continued breeding with those daffodils certain characteristics, certain linkages in their genetic make-up are inevitably accentuated. The flowers that stand up well in the weather, that produce the most pollen and the most seed under the conditions of the local micro-climate will, by reason of sheer preponderance in number, appear more frequently as parents in the bed of seedlings. Through the years very definite lines of parentage develop and, through what one might call the road of least resistance, these lines are more and more accentuated.

Let us assume that these matters are all taken care of: the daffodils grow in a certain environment and, to the extent I have already shown, their environment played a role in the choice of the seedlings that mature and grow into flowering plants. The human element was already present in the choice of the land and in the selection of the breeding stock. It becomes more and more influential when a group of seedlings flower. The selection of those to be retained for further study or for further hybridizing is a human one. This choice then becomes a very personal matter, the standards applied are those of the plant breeder. While he may be

influenced by his public or by the market potential of his material, we can see in the daffodils very little evidence of this. The men who have shaped the daffodil in Great Britain were not influenced by the public. Their motivation was largely concerned with rivalry for honors and distinction on the show bench.

However this may be, we have seen through the years the rivalry of The Brodie of Brodie, P. D. Williams, Guy Wilson, Lionel Richardson, with a little competition thrown in from time to time by some of their good friends. In talking to one another they have set show-bench standards that bear no relation to the daffodil as a garden plant. Just take the list of names of introductions of thirty, twenty or ten years ago and see how very few of them exist in current catalogs. Then take a good look at a well-grown Emperor (1865) a well-grown Firetail (1910) or a John Evelyn (1920), and you will realize how little real progress there has been.

The Dutch breeders meanwhile were influencing the selection in a different direction, for they had the further objective of tapping the huge greenhouse and florist market.

Thus, when we look at the popularity polls for daffodils, as they have been conducted by the Royal Horticultural Society, we find a gradual divergence among show, florist, and garden daffodils. In other words, the very men who were directing the shape of daffodils to come were leaving their public behind them. The race for better daffodils, for prizes and distinctions at the annual daffodil shows, had become a personal rivalry with no heed paid to the needs of the public.

Plant breeding is an art, as well as a science. The personality of the breeder will be reflected in the varieties he produces, just as the personality of an artist shows in his paintings. Like any artist, the plant breeder must be a good technician. He must have a thorough knowledge of his material, in this case the genetic and horticultural factors affecting it. He must be methodical and persistent in following his breeding lines to their logical conclusion and, on the other hand, highly imaginative and constantly inspired by intuitive glimpses in the future. And above all, he must have that warm, human quality that one might call "concern" for the daffodils he sends into the world and for the gardeners who are to buy them. His worry must be that these novelties should have the strength and habits that will make them good garden plants.

This concern is what has been lacking. Its presence would have warned the Dutch breeders that the day of the daffodil as a greenhouse flower might come to an end, leaving an assortment unsuited to meet the needs of the gardener for outside planting. For the British breeders, too, it was lacking. For year after year they introduced more red-cupped daffodils, more big whites and more yellow trumpets that were quite impressive on the show bench, just as long as they were not compared with equally well-grown examples of the previous year's introductions.

At this time in the history of the cultivated daffodil, we stand at a crossroad. In the lines of breeding practices in England and Holland today we see little progress. Daffodils should not get larger; they should not get more refined and sculptural; certainly, they should not get less adapted to garden conditions. If we look toward the next hundred years and wonder what the daffodils of our grandchildren or great-grandchildren will be, then we come to a startling conclusion. The daffodils of the future may have to come from an entirely different line of breeding.

That different daffodils are possible is quite certain. I already pointed out that all the breeding done since the good naturalizing daffodils were raised has taken place in less than one hundred years. We know, too, that the climatic influence in daffodil breeding has been a very narrow one; we know that the human influence on daffodil breeding and selection has been restrictive; that it has been held to narrow and confining limits.

So, what must we do? We must look at the daffodils that do well in our gardens, exploit their good characteristics and try to preserve them in the new seedlings. We must do our hybridizing in the climate where we want to raise and grow our daffodils. We must put a different group of people to work. We must not break the bonds that tie us to our English friends, but must realize that what is a good show flower in Ireland is by no means a good garden flower in Virginia. Our outlook on daffodils is, of course, much broader than that of the British experts. We have seen more and traveled more. Our daffodil breeders must have a broader outlook than is demonstrated in the competitive shows in London.

Now, after saying this, I should like to spell out some of my directions for the better daffodils to come. Let us look for a moment at the varieties that naturalize well, such as February Gold, Helios, Trevithian and many *jonquilla* and *triandrus* hybrids. Most of these

are sterile varieties; they set no seed. The bulb does not exhaust itself in seed production, and hence by that little margin the varieties do a little better than other, more fertile ones. By that margin they survive where others perish. Now why are they sterile?

The modern daffodil is a tetraploid. Cross it with a primitive species, most of them diploid, and the result is a group of triploid seedlings. It is these triploids that do not set seed. Here in one simple genetic trait lies already part of the answer to the quest for better garden daffodils. Resistance to basal rot, so obviously present in the polyanthus types, is carried on in all their seedlings.

I need only point to some of such new varieties that have already appeared. Silver Chimes is finding a ready acceptance in the South. It should be more widely grown. A Dutch Poetaz called Geranium was one of the most successful flowers in large scale trials in southern California. Some crosses of big trumpet varieties with *N. bulbocodium* gave us amazingly vigorous daffodils that in trials in the St. Louis area gave every evidence of having merit. New crosses of poetaz with jonquils gave me some fine new polyanthus types; jonquils with *N. triandrus* gave us a series of fine daffodils and one need only see the many lovely things raised by Alec Gray to realize that much can yet be achieved.

My recipe, then, for new daffodils for our country is not to continue along the lines of the classical British show daffodil. It is to seek, by crossing the outstanding varieties in the garden with the wild species, new lines, new types, that through our different climatic and human influence, we will play a roll in our American gardens.

Chromosome Numbers in the Genus *Narcissus*

WILLIS H. WHEELER, Arlington, Virginia

AT THE request of the Editorial Committee of the Society I have compiled a list of a majority of the *Narcissus* species, their botanical varieties, and their subspecies, as well as an occasional horticultural variety of significance, to show the chromosome number of each. In the main, the information has been taken from several volumes of the RHS "The Daffodil and Tulip Year Book."

Species and/or Variety	Chromosome Number	Species and/or Variety	Chromosome Number
<i>Narcissus abscissus</i>	14	<i>N. jonquilla</i> var. <i>tetraploide</i>	28
<i>N. albescens</i>	14	<i>N. jonquilloides</i>	21
<i>N. alpestris</i>	14	<i>N. juncifolius</i>	14
<i>N. asturiensis</i>	14	<i>N. longispathus</i>	14
<i>N. bicolor</i>	28	<i>N. mavieri</i>	14
<i>N. bicolor</i> var. <i>horsfieldii</i>	22	<i>N. minor</i>	14
<i>N. biflorus</i>	17	<i>N. moschatus</i>	14
<i>N. broussonetti</i>	22	<i>N. nanus</i>	14
<i>N. bulbocodium</i> var. <i>genuinis</i>	14	<i>N. obvallaris</i>	14
<i>N. bulbocodium</i> ssp. <i>conspicuus</i>	42	<i>N. odorus</i>	14
<i>N. bulbocodium</i> ssp. <i>nivalis</i>	14	<i>N. pachybolbos</i>	22
<i>N. bulbocodium</i> ssp. <i>citrinus</i>	14	<i>N. pallidiflorus</i>	15
<i>N. bulbocodium</i> ssp. <i>monophyllus foliosus</i>	28	<i>N. panizzianus</i>	22
<i>N. bulbocodium</i> ssp. <i>romieuxii</i>	29	<i>N. papyraceus</i>	22
<i>N. bulbocodium</i> ssp. <i>tenuifolius</i>	26	<i>N. pisanus</i>	14
<i>N. calcicola</i>	14	<i>N. poeticus</i>	14
<i>N. confusus</i>	14	<i>N. polyanthos</i>	22
<i>N. cyclamineus</i>	14	<i>N. portensis</i>	14
<i>N. dubius</i>	50	<i>N. pseudo-narcissus</i>	14
<i>N. elegans</i> var. <i>fallax</i>	20	<i>N. psuedo-narcissus</i> var. <i>concolor</i>	14
<i>N. elegans</i> ssp. <i>intermedius</i>	20	<i>N. pumilus</i>	14
<i>N. gaditanus</i>	14	<i>N. reflexus</i>	14
<i>N. gaditanus</i> ssp. <i>minutiflorus</i>	14	<i>N. rupicola</i>	14
<i>N. gayi</i>	14	<i>N. scaberulus</i>	14
<i>N. hispanicus</i>	21	<i>N. serotinus</i>	30
<i>N. hispanicus</i> var. <i>propinquus</i>	14	<i>N. tazetta</i>	20, 21, 22, 30
<i>N. incomparabilis</i>	14	<i>N. tortuosus</i>	21
<i>N. intermedius</i>	17	<i>N. triandrus</i>	14
<i>N. johnstonii</i>	21	<i>N. viridiflorus</i>	28
<i>N. jonquilla</i> var. <i>henriquesi</i>	14	<i>N. watieri</i>	14
<i>N. jonquilla</i> var. <i>henriquesi</i> 'Simple odorante'	14	Emperor	21
'Double ordorante'	14	Golden Spur	21, 30
		King Alfred	28
		Mme. de Graaff	31
		Van Sion	14
		Van Waveren's Giant	28
		Victoria	14, 22

An Innocent Abroad

KATHERINE L. BLOOMER, Lorton, Virginia
Managing Editor, The Daffodil Bulletin

COME with me to Ireland and England for the 1959 daffodil season. This is the story of "an innocent abroad" in the daffodil world.

In most flower articles I have read over the years, I have noticed that the writer speaks of the adverse season encountered. I was blessed with a nearly perfect season in which to see the Royal Horticultural Society Daffodil Show, for to produce such quality as I saw the season had to be right.

In advance of my trip last spring I had written to two famous hybridizers for permission to visit their plantings. Gracious letters assured me of a welcome, and so my trip was planned to meet these men at the heights of their seasons. In the southern part of Eire a visit was planned to Mr. J. Lionel Richardson in early April, and in late April a call on Mr. Guy L. Wilson in Northern Ireland. Between these two dates I planned to see both the RHS Daffodil Show in London and the Midland Daffodil Show in Birmingham.

So according to plan my first stop was at Prospect House, the home of Mr. and Mrs. Richardson. I arrived there at the height of mid-season bloom and was welcomed with warm hospitality and an incredibly beautiful picture. When you see daffodils in such quantity and with such intense color as theirs, it is an arresting sight. One needs time to adjust to the overall picture in order to take in the individuals which make up the whole scene. There are so many individual flowers to meet that one can hardly hope for a nodding acquaintance in such a brief time.

Each Richardson variety is grown under a number. By reference to a book which is cross indexed, you can name the parents, the date of the cross, and the name of the flower if it has been named. For example, I admired a yellow trumpet, No. 658. It was a large 1a, with a particularly long trumpet. Its excellent balance was immediately noticeable and the vigor of its foliage gave the impression of strength. Mrs. Richardson did not have to refer to the book to tell me it was Golden Rapture, that it was bred from

Pretoria by Goldcourt. A week later this flower took the Banksian Medal for the best flower in the RHS show.

Another beautiful *1a* was Burnished Gold. Aptly named, it is a cross between a seedling and Goldcourt. King's Ransom, also *1a*, a perfectly proportioned flower with a beautifully overlapping perianth and of great substance, is another child of Goldcourt. It won the Banksian Medal in the 1950 show.

The value and importance of certain characteristics in the parents soon became evident to me. It became fun to watch for parental traits in the children, and for the next few weeks I certainly had an ample opportunity.

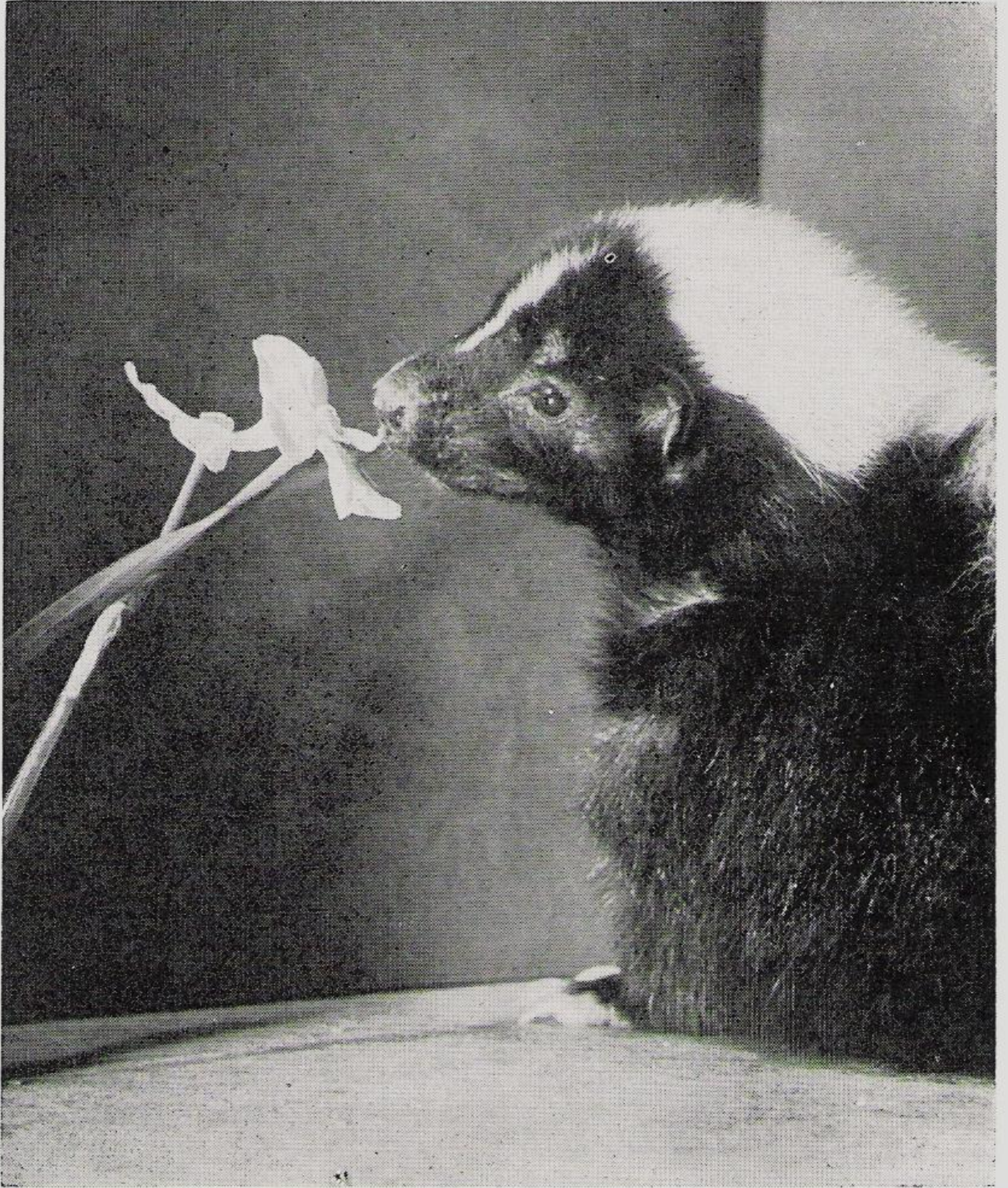
Careysville, *2b*, was a Richardson flower of most restrained and dignified beauty. The perianth was white and the cup exactly the color of an apricot. It was a soft color with a distinct blush that held elusive beauty. I admired but did not yearn for it, as I have for others. In that wonderful Irish climate colors come naturally that I never see in daffodils along our eastern seaboard. I think this apricot color is too subtle for me to expect back home.

In the next year or so you will hear and read the names of Avenger, Kingfisher, Rockall, Acropolis and Debutante, while many names recently introduced will become more familiar. Names are just names to me until I can attach them personally to the flower or person to whom they belong.

It was pleasant to be able to attach a name to another name I had heard. A guest of the Richardsons was Mr. J. M. de Navarro, a hybridizer whose name I had seen on articles in the RHS Daffodil and Tulip Year Books. Most of his life has been lived in England, but he is an American citizen, the son of a famous American mother, Mary Anderson. Her name was on the marquees of the finest theatres at the turn of the century.

Through the kindness of Mr. Richardson, I was permitted to enter the enormous RHS hall the day before the show opened, and to watch the preliminaries of setting up. I have seen slides taken in the RHS shows, but I just did not have any impression of the size of the hall. I understand there are two Society halls, and the other is smaller.

Around three entire walls the trade exhibits are set up and even that amount of space does not accommodate all the commercial exhibits. For the full length of the hall there is a wide aisle and at right angles to this are staged the open classes for new varieties, collections, miniatures, and single blooms, and the classes for ama-



Stinky, one of our younger enthusiasts, whose picture appeared in LIFE this year.

Bruce Roberts, *Gilloon Agency*

teurs only and novices only. These classes are staged on tiers and thus the viewing of individual blooms is much easier.

As I entered I caught sight of Mr. C. R. Wootton, who with Mr. Guy L. Wilson was a guest of the American Daffodil Society at its first National Convention in Washington in 1956.

Mr. Wootton spread a protective wing over this enchanted innocent and immediately led me to Mr. Wilson, who has been my pen friend for 20 years. He was busy supervising the staging of his trade exhibit but not too busy to give a warm welcome. It was my experience that none of the truly great names in this world of flowers were ever too busy to give you any help they could. Not willing to take advantage of Mr. Wilson's kindness by trespassing too long, and knowing I would see him again at Ballymena, I moved on at Mr. Wootton's side.

At this time and subsequently I met people whose names are famous in the daffodil world. I cannot mention them all, but to list a few reads like a "Who's Who." Mr. Wilson and Mr. Wootton I had met several years before, and Mr. Richardson and Mr. de Navarro I had met the previous week. Then there was Mr. Jefferson-Brown, whose "The Daffodil" is used by many of us as a text book. Mr. C. F. Coleman was there — he gave us Jenny, Charity May and Dove Wings, and I hope will give us the charming little *cyclaminius* hybrid with the yellow perianth and red cup that was shown under number 447/14.

Mr. David W. Gourlay, another name familiar to me, had some exquisite blooms of Double Ming which had been hybridized by his late father-in-law, Mr. A. M. Wilson. Mr. D. Blanchard sent a warm message to our Mr. Charles Meehan. Others I met were Mr. W. J. Dunlop and Mr. W. O. Backhouse, who showed me a slide of a red-cupped trumpet he has hybridized. Also there was Mr. Alec Gray, well known to us as the source of so many of the miniatures.

I met Mr. F. E. Board, who told me he has 50,000 of his own seedlings growing for further selection, and Mr. Matthew Zandbergen of Holland, whose trade exhibit included some very strange-looking new daffodils. They were startlingly different from the conventional daffodil in conformation, but I am sure they would delight the heart of an arranger.

Schedules of the Daffodil Show are not handed out at the RHS as they are at our large shows. Theirs is a 30-page schedule and copies may be obtained only upon application. Mr. Gourlay, who

was one of the judges, gave me his copy, which was a tremendous help.

The Engleheart Challenge Cup for 12 varieties raised by the exhibitor is a much-sought award. It was won this year by Mr. Richardson. On the top tier were Tudor Minstrel 2*b*, Air Marshal 2*a*, Theron 1*c*, and Golden Rapture 1*a*. The second tier was made up of No. 303 1*a*, Rose Royal 2*b*, Border Chief 2*a*, and Rockall 3*b*, while on the lower tier were Debutante 2*b*, No. 43 3*b*, No. 645 (now named Corsair) 2*b*, and Masai King 2*a*.

The bloom of Golden Rapture in this collection won the Banksian Medal.

Mr. Guy Wilson was second in the Engleheart Cup Class with a beautiful exhibit including Ardbane 2*c*, Fury 2*a*, Castle of Mey 2*c*, Slieveboy 1*a*, on the top tier (Slieveboy won the Banksian Medal for Mr. Wilson in 1958). On the middle tier were Bravura 3*b*, No. 43/19 (a 2*c* that is truly a super Chinese White), Spellbinder 1*d*, and Alicante 2*b*. Empress of Ireland 1*c*, Home Fires 2*a*, Cloneen 2*c*, (very graceful and suggests some *triandrus* heritage), and Fairy Tale 3*b*, were on the lower tier.

The staging of these exhibits was masterful and contributed so much to their beauty that I feel we must give more attention to staging here in this country to give our blooms their best chance.

Mr. Wilson won a first in the class for 12 varieties selected from any or all sub-divisions 1*c*, 2*c*, 3*c*, three blooms of each, and Mr. Richardson was runner-up. Mr. Wilson presented a beautiful collection of Tornamona, Murmansk, Empress of Ireland, Easter Moon, Broughshane, Vigil, White Prince, Glenshesk, Cloneen, Ardbane, Castle of Mey and Glenbush.

The Midland Daffodil Show in Birmingham came a week after the RHS show, and in comparison was small. In spite of the fact that the intervening week had produced some extremely bad daffodil weather, including a hailstorm, there was a good display of material.

In no show I have ever attended have I seen such an array of silver to be presented to the winners. As I was standing admiring all of this impressive silver, Mr. Wootton, who still had me under his protective wing, asked me if I would present the awards. Flattered beyond measure and scared to death, I agreed to do it.

It was my pleasant privilege to present the Bourne Cup for one stem each of 12 varieties raised by the exhibitor to my fellow countryman, Mr. de Navarro. Mr. J. S. B. Lea was runner-up

in this class. Mr. de Navarro had in his collection an excellent flower, Front Royal, a red and yellow 2*a* named for a Shenandoah Valley town in Virginia. He also was the winner of the Cartwright Challenge Cup.

The Wootton Challenge Cup for 12 varieties in not less than three divisions was won this year, as it was last year, by Mr. A. H. Noakes. Mr. Noakes was also awarded the ribbon for the best flower in the show, a beautiful and perfect bloom of Matapan. In addition he took the Norfolk Challenge Cup for 12 varieties in three divisions, one stem each, costing not more than 10 shillings a bulb.

Mr. W. A. Noton was first in the competition for the de Navarro Challenge Cup, with the Hon. Pamela Walpole second.

When I left Birmingham for Belfast my visit to England was over. Belfast was just a way station to Broughshane and Mr. Guy Wilson, and I knew that visit would be the climax of a wonderful daffodil feast.

I arrived at The Knockan to be greeted warmly at the open door by Mr. Wilson. Mr. Wilson fed my soul and Lizzie, his housekeeper, fed my appetite with the most delicious things at tea and again at dinner.

So many pictures I have seen of Mr. Wilson have shown him in his cap and Donegal tweed knickers, and that is the way I saw him, surrounded by his extensive plantations of daffodils. The ground here is rolling. You stand at the foot of a gentle slope and daffodils dance in the breeze as far as the eye can see . . . Remember Wordsworth's picture of them?

I have always associated Mr. Wilson with the whites, although I know he has produced many famous colored flowers such as Armada and the splendid Donore, a 1*a* which I saw that day. Donore is another flower with Goldcourt parentage. Slieveboy was so smooth textured you wanted to feel its satin touch as well as see its perfect form and balance, and the Empress of Ireland, while a little old so late in the season, was a thing of beauty.

Fury made a startling patch of color with the intensity of the orange-red crown, another example of the Irish color we cannot attain. Alicante was an exquisite color. Castle of Mey, like Ard-bane, was the purest white. In neither of these two is there any hint of a cream tone. Chinese White was in bloom and I feel like a traitor to that lovely flower when I say that No. 43/91 is even

more magnificent. It's a super Chinese White, but the stock is so small it will be a while before it comes into commerce.

Two Wilson daffodils I plan to watch for in the next few years. One is Glendermott, a very large 2c bred from Truth by Broughshane, and the other is a 1c bred from Courage by Empress of Ireland. I heard that Queenscourt might be its name.

Once started on telling of my trip it is hard to stop, but stop I must. Everywhere I went the flowers, like the people I met, were so wonderful I wish I could mention each by name. As I look back on my journey I know that for years to come ". . . lovely pictures still shall bloom upon the walls of memory's room."

Golden Spur in the Midwest

W. L. TOLSTEAD, Elkins, West Virginia

THE wild species of *Narcissus* that have been the parents of most modern varieties of daffodils are native to the long, cool growing seasons of western Europe, and they commonly inhabit grassy, poorly drained or subirrigated meadows where water is plentiful or even excessive during their growing period until the soil becomes drier in July and August. Most of the modern hybrids that derive from these wild plants require an equally moderate climate, and also, of course, the benefits of cultivation.

The prairie lands west of the Mississippi River in the general latitude of Chicago do not offer the favorable environment needed. The winters abruptly burst into spring at a late date, followed by high temperatures, so that it often seems that there is no spring at all, and summer comes quickly. Also the warm or hot days of June hasten maturation and dormancy. These two factors shorten the growing season for daffodils to April, May and June. Even during these months when the sunny afternoons become hot and when there is an occasional brief drought, wilting of daffodil leaves is evident. While the benefits of cultivation and irrigation partially compensate for the deficiencies of climate, these measures prove to be of only little significance relative to the severity of the elements.

In the prairie habitat it seems that leaves of most hybrid daffodils transpire so rapidly that the limited number of unbranched roots cannot supply needed water. As a result the plants are unable to replace the food expended in respiration and in growing new leaves and roots. The bulbs divide but they fail to gain sufficient size to produce a flower in succeeding seasons. From year to year many modern varieties diminish until they are exhausted completely.

The high summer temperatures of midwest soils favor bulb rot so that the less resistant varieties succumb sooner or later, often being completely wiped out. Other bulbs are killed during winter, especially when a warm period is followed by sub-zero weather. Early blooming varieties are most susceptible to this.

By far the greatest number of large trumpet daffodils grow very slowly, if they survive at all. There are, however, a few that thrive, and one of these is the old variety, Golden Spur. It has rich yellow flowers about two inches across with slightly forward-bent and twisted petals. It is the earliest daffodil to blossom which it does when about 6 inches high. At maturity the blue-green scapes and leaves are usually about 15 inches long, notably shorter than those of the standard variety, King Alfred. The smooth bulbs increase rapidly and are especially resistant to disease and bulb rot. They are about half the size of the usual commercial varieties, but a well developed Golden Spur bulb produces about twice as many roots as a large, healthy one of King Alfred.

I first observed Golden Spur naturalized in my mother's lawn near Newberg, Oregon, where they grew in large, crowded clumps that appeared to be 25 or 30 years old. I took a number of bulbs to Lincoln, Nebraska, and planted them in open woodland. They grew there for eight years and flowered abundantly each season. They formed large clumps in spite of the droughty climate. In 1955 they were moved to a pasture near Pella, Iowa, where they grew even better.

If Golden Spur has any faults it is that the flowers do not usually last very long. If the weather is warm, dry and windy, they wither within four or five days, but they flower as long as two weeks during mild, rainy springs. Since the varieties available in the prairie states are limited, Golden Spur is still an excellent selection. Thousands of them flower in lawns where only a few, if any, modern varieties can be seen. Here Golden Spur has been passed from

garden to garden for several decades. It also grows well in the eastern states. Golden Spur has the physiological balance that permits its survival and production of flowers under adverse conditions and neglect when naturalized.

Golden Spur appears to have been introduced into Holland from the Pyrenees Mountains on the border between northern Spain and southwestern France. After little or no selection it was registered by Dutch growers in 1889 and sold in the bulb trade.

I have made chromosome counts of several clones. They all had the diploid rather than the tetraploid number that is characteristic of most modern commercial daffodils. It appears that a Golden Spur population is not strictly a single clone because it varies some in size, shape of the bulb, height and form of flower. It seeds freely even in Iowa and Nebraska. Golden Spur is probably a wild, collected variety.

The Story of Armada

MATTHEW ZANDBERGEN, Sassenheim, Holland

I FEEL it an honour to be asked by Mrs. Howard Bloomer to write the story of Armada for the American Daffodil Yearbook as I think it is one of the most wonderful daffodils ever grown. It also reminds me of one of the finest gestures of friendship I have ever experienced.

Since it is always best to start a story at the beginning I must go back to the RHS daffodil show in 1938 in London. At this show Lionel Richardson amazed us all by showing Krakatoa which was a real eyeopener. For many years I always went with Guy Wilson after the show to see his daffodils at the Knockan. On our way we were as usual talking shop and Guy said: "I think I have a seedling nearly as good as Krakatoa." This sounded incredible to me and I was eagerly awaiting the moment to set eyes on this seedling. When we arrived he immediately showed me the plant and it was a picture. I could not believe my eyes, and of course I tried to persuade Guy to sell me the plant, but in vain.

I could not then have visualized the horrors of the occupation of my country in the coming years. During those years I very often thought of my friend and also of the beautiful plant and wondered what had become of it since there did not seem any means of communication with him.

However in 1943 an opportunity did occur. A compatriot of mine managed to communicate with Guy Wilson by means which it is not necessary for me to recount, and assured him that I was still in existence. At that moment Guy made a wonderful decision which I would like to tell you about.

During the war he showed the seedling at the RHS and got an Award of Merit under the name Armada. Someone wanted to buy the stock and he answered "I have decided to present Matthew Zandbergen with the complete stock if he survives the occupation."

On one or two occasions during the occupation I had feared I should never see any of my old friends in Britain again. So after the liberation in July I flew over to see my friends and of course went right away to see Guy. I was delighted to see him in roaring health and you can imagine that one of my first questions was to ask the fate of that nice plant I saw when I last visited him, since I had gone over with the idea of, if possible, buying just one bulb.

Guy led me into his room and pointing to two parcels on the table said, "Those are for you, Matthew." You can imagine my amazement when I found they were the complete stock of the beautiful plant which Guy had meantime named Armada and then Guy told me of the decision he made during the war. He said "I decided that if you came through the occupation safely I would give them to you as a token of our friendship and in some measure to compensate for all the troubles through which you had passed." I was overwhelmed and I think it was almost the only occasion when I have been at a loss for words! To me Armada has proved to be a wonderful daffodil and a perpetual reminder of the most generous gesture of my friend Guy Wilson, who gave me the best he could offer, the most marvellous red and yellow daffodil at that time. Could any friend do more? In order to insure the safety of Armada I sent part of the stock to my friend, Rodney Ward, in the Scilly Isles, to be grown there. The remainder I took to Holland to be nurtured and as I have already said, to remind me constantly of the wonderful generosity of a gentleman I am proud to call "friend."



Narcissus and Nemesis

bas-relief by Sara B. Smith

And That's How the Daffodil Got Its Name

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

THE Greeks had a word for it. Every school child can recite the romantic tale of the handsome Greek lad, Narcissus, so enamoured with his own good looks that he fell in a pool and drowned while gazing at his reflection in the water. Nemesis, goddess of Vengeance, annoyed with the vain youth, changed his body into a flower, which could grow forever at the side of a stream, bending and looking at its own reflection. So that's how the narcissus got its name. So romantic! So inaccurate! You see, the flower was around for a long time, already named narcissus, before the storyteller ever thought up that fanciful explanation for its origin.

The storyteller in this case was Ovid, a Roman, not a Greek poet, and the story appears in his *Metamorphoses* written about the time of the birth of Christ. He supposedly was retelling an old Greek legend, but he may have made the story up out of whole cloth. We do not know which, because Ovid's version is the only one that has come down to us.

It took another Roman, Pliny this time, to set Ovid right, or rather to attempt to set him right, for romanticists through the centuries have preferred to remember Ovid and forget what Pliny said about him and his story. Pliny, in the first century A.D., wrote what can be called the world's first natural history book, a scientific rather than a romantic text. And in it, when he was discussing the plant narcissus he said "a narce dictum, non a fabuloso pureo." This translates roughly, very roughly, into "it takes its name from stupor, not from that crazy boy." You see, *narke*, which is as close as we can come to it in Roman rather than Greek letters, is the word for sleep, or more accurately a drugged stupor, and the same Greek stem appears in our modern word narcotic. So the Greeks called our flower stupifying, and they meant it literally. The romanticists, fighting to the last ditch, are apt to say this is because the odor is overpowering. More likely, the Greeks, prac-

tical souls that they were, had tried eating the bulb, and it knocked them out.

Modern science confirms this toxic effect. The narcissus bulb contains, besides oxalic acid which is a major irritant and poisonous, the alkaloid, or narcotic, narcissine which bears the horrible formula of $C_{16}H_{17}O_4N$, and possesses the unpleasant property of putting to sleep, sometimes permanently, those who partake of it. This has one advantage. Moles and field mice encountering narcissus bulbs while burrowing won't nibble them away, although they may leave them high and dry over their runways. On the other hand, when war and hunger come, as they did to our Dutch friends all too recently, the narcissus bulbs are no help. Tulips can and have been dug and ground for feed. No cow or human can survive on narcissus. They still try, however. Only a few months ago the papers carried the story of an English housewife who cut up some of her husband's prize narcissus bulbs for the stew, thinking them onions. The family, although hospitalized, survived.

Romance dies hard, however. The word narcissus will probably forever evoke the image of the handsome lad leaning too far over the water, and never an image of some half-starved, ragged wanderer, sick and drugged in the corner of some shed, because he tried to eat a few of the bulbs he dug up or found.

So much for "narcissus." Whence came "daffodil?" This is involved too, and its untangling is more speculative than the derivation of narcissus. Here too romanticists may say that it's a shortened form of daffadown-dilly, meaning roughly silly or cute little lily from the downs or fields. English being what it is, however, daffadown-dilly is more likely a "cute" familiar form of daffodil, much as the given name Ann can become Nancy or even Nanny in common usage. The Greeks, as we have just explained, had a word for our flower, narcissus. They and the Romans had another word, *asphodelos* or *asphodelus*, Greek and Latin respectively, for some type of plant whose flowers were used for garlands to wear about their head at feast time. The art of exact botanical description is a recent one, and we can really never be sure exactly which plant they were referring to when they used the word. Probably it was applied to several different ones. When the Romans traveled to their far provinces such as Gaul and Britain, they may well have applied old familiar names, used for their Mediterranean flowers, to foreign species which somewhat resembled them.

Linnaeus, attempting to create order out of the chaos which existed in botanical nomenclature of his day, applied the generic name *Narcissus* to the entire group of related species which we today call narcissus, daffodils, or jonquils as the fancy strikes us. He also used the word *Asphodelus* to describe a considerably less often grown genus of Mediterranean flowers that have fleshy roots, linear leaves, and white racemose flowers. The two are not too closely related, *Narcissus* belongs to the amaryllis family and *Asphodelus* to the lily family, but there is some reason to believe that the Romans may have applied the term *Asphodelus* rather loosely to present day *Narcissus* species, and carried the term with them into France and Great Britain when they became Roman colonies. We are not even quite sure now whether the daffodils growing wild in England are truly native there, or were introduced by the Romans, only to escape and naturalize.

In any case, *Asphodelus* probably became daffodil, the common name used for the large trumpet *Narcissus pseudo-narcissus* growing wild in England and now applied to narcissus flowers of almost any type. It probably had many changes in pronunciation and spelling as the word moved from Latin through French and into English, dropping the Latin -us ending and picking up an euphonious "d" along the way. Bowles, in "A Handbook of The Narcissus" printed in London in 1934, gives the following variations on the word as it was used in old English: affadille, affodylle, affadyll, daffadilly, affodill, daffodill, affodil, daffodil, and, of course, daffadown-dilly.

There is a tendency, which was somewhat stronger in the past, to use daffodil as the common name for the larger, yellow forms of narcissus, and to switch to narcissus when one referred to the smaller and paler forms of the flower. Daffodil is not usually applied to poets and paper whites, for example. There may be a reason for this. When the small flowered Mediterranean forms were brought in more recent times to England, they did not resemble too closely the large trumpets already growing wild there, so it was easy to use the scientific name *Narcissus* as the common name also for these new flowers. Now that the types have been crossed and re-crossed so much that eleven divisions and many subdivisions are needed to separate the many horticultural types, the distinctions that once existed as to which types are commonly called daffodil, and which narcissus, become vague. We can now

say the genus *Narcissus* has two common names in English, narcissus itself and daffodil, and that the two terms are being applied more and more interchangeably to all forms.

So much for narcissus and daffodil, both nice old terms going back to the Greek, but with daffodil suffering many alterations along the way. But where did the term "jonquil" come from? It's still in common use, particularly in the southern United States, where one often hears jonquil applied to any yellow narcissus. And when visiting northern cousins, or the expert lecturing to the garden club, say "Oh no, it's a daffodil," the civil war starts all over again. Many references will be made to great-grandmother's having obtained them as a gift from England during slavery days, and that they were jonquils to her and have always been jonquils. The garden clubs are winning, however. Jonquil as a common name is enjoying less and less usage. The South dies hard, though. I know, I came from there and Mother raised "jonquils." She also raised narcissus, but they had clusters of sweet-smelling white flowers, and bloomed around Thanksgiving and Christmas outdoors, not indoors in pebbles and water. Well, snooty as we can be today about the term, jonquil has a nice classical background too, and considerable justification for its adoption as a common name.

One of the original *Narcissus* species first established by Linnaeus in his "Species Plantarum" was *Narcissus jonquilla*. This means in Latin "the narcissus that is like a little reed," for *jonquilla* is merely the diminutive adjective form of *junco*, which means rush or reed. Alone among narcissus types, the leaves of *N. jonquilla* and its related species are oval and narrow, reed-shaped in fact, rather than wide and flat as in the rest of the genus.

When the great-grandmothers of the South ordered bulbs from England for their new plantations, they received *N. jonquilla* and its related forms. They may have imported other types as well, but we know for certain they received jonquils, for they have persisted in that favorable locale down to this day. Years of neglect following the civil war had no effect upon them. You see them all over the countryside today, at every farm house and cabin.

And finding *Narcissus jonquilla* a little too much to say, they shortened this to jonquil. The same thing happened with *Camellia japonica*, which became simply japonica. Their Northern contemporaries committed the same sin, if a sin it be, with *Cydonia*

japonica, so you can start another North-South battle about whether a japonica is a camellia or a flowering quince. Also, highly-trained modern gardeners in the South, who would never now be caught dead saying japonica, still brag about their sasanquas, by which they mean *Camellia sasanqua*. But this is off the subject of jonquils.

The South ended up with two common names for the bulbs they grew outdoors, narcissus for the paper white ones, and jonquil for the rush-leaved ones. This would have been perfectly all right except for the fact that the jonquils all have brilliant yellow flowers, some of the most intense yellow in the family as a matter of fact, and when the South could once more afford to import them, any narcissus which was yellow in color was called a jonquil. Thus the trumpets, daffodils to the British and Yankee cousins, became jonquils in the South. They looked more like their old jonquil varieties than their old paper whites.

Jonquil too is thus a nice old classical name, perfectly proper to use as a common name, provided you remember what it means, which isn't yellow, and restrict its use to those varieties that have that cute, narrow, rush-like foliage. So here we are. Three names, all classical in origin, and all proper to use in common speech, provided that we restrict one of them to its proper section in the genus. A rose is a rose is a rose.

Certain Fundamentals of Plant Breeding

WILLIS H. WHEELER, Arlington, Virginia
Second Vice President, American Daffodil Society

UNTIL the year 1866, when the Austrian monk, Gregor Mendel, of Brunn, Moravia, published the results of his experiments in breeding, peas, no one had offered any sound explanation of the mysteries surrounding the interbreeding of related but unlike living organisms. Before that time some important plant breeding had been done by certain workers but they were hampered in their

efforts because rules governing inheritance had not been set forth to guide man in developing new plants and animals for his use.

After Mendel's paper appeared it was completely overlooked until the year 1900 when three European botanists, de Vries, Correns, and Tschermak almost simultaneously rediscovered its principles. From that time plant and animal breeding, but especially the former, made tremendous strides forward, based upon the principles enunciated by the Austrian monk. Results since 1900 have been cumulative and following the introduction of hybrid corn, have snowballed until now we find hybrid onions, cucumbers, tomatoes, snapdragons, petunias, etc., offered in the catalogs to tempt the gardener with results of honest claims for bigger and better crops.

Such accomplishments have come from carefully controlled and planned plant breeding falling into two categories; one being the breeding done with naturally self-fertilized plants, and the other being the breeding done with naturally cross-fertilized plants.

Self-fertilization brings out the dominant and recessive genes in a plant. The genes are those controllers of inheritance within the chromosomes of the nuclei of the germ-cells (pollen and ovules). Those genes determine all the aspects of the plant, including its size, flower color, fruit size, disease resistance, and many other things. By self-fertilization it is possible to analyse the genetic make-up of a plant, sort out its genes, and establish true breeding lines.

As an example, the plant breeder may be growing dwarf peas. In his planting he may find one plant that matures peas earlier than any other. Since he considers earliness a desirable character he saves all the seed of that plant and sows them. By choosing the earliest plants of that generation the breeder will be selecting towards a type of pea producing early peas. In doing so he will be choosing for either a pure breeding dominant or recessive character. Once more he selects the plant of that generation most nearly meeting his requirements and plants its seeds. He continues this until all the genes having an effect on the plant he desires have been stabilized into the pure-breeding dominant or recessive condition that produced earliness. When that is accomplished with a self-fertilized plant such as the pea, maximum improvement results.

The term "maximum improvement" is used since there is a point beyond which selection of the descendants of one plant will result in

no further improvement. This is because the breeder has established a *pure line* and selection will not produce improvement in a pure line.

The use of naturally self-fertilized plants in breeding is of great importance since the crossing of two such plants often results in "hybrid vigor". Hybrid vigor is greatest in the first (F_1) generation; therefore it is necessary to repeat the parental cross for each crop if maximum vigor is to be had. Thus, named flower or vegetable varieties are produced annually by hand or artificial pollination between two pure lines of a plant. The results year after year are the same if the two pure lines are kept "pure". The hand work required to produce such seed explains its greater cost.

Naturally cross-fertilized plants present different possibilities to the worker. Such plants, when self-fertilized, suffer a general decrease in quality of the strain. Thus, it would seem that any attempt to secure improvement by the establishment of a pure line would be useless since the result is usually a decrease in vigor. How then may the advantages of single plant selection be had when self-fertilization produces such poor results? It is done in the following manner.

We will assume that the breeder wants to produce larger ears of corn on a plant resistant to bacterial wilt, a serious disease of sweet corn. To do so, he will select two plants, each with large ears, that show the least evidence of infection even when exposed to the disease. He will self each. (To "self" in plant breeding means to pollinate the flowers of a plant with pollen from the same plant.) The seeds from each plant will be planted separately. The resulting plants will be in a variety of forms, including variations in ear size and disease resistance. From each of these groups the breeder will select several seedlings having the largest ears and highest disease resistance. In doing this he will choose plants most normal in appearance and he will self each.

Seeds from each of those plants will be sown separately. One or more of the resulting may breed true for a relatively large ear and high disease resistance. If none breed true, further generations will be raised until a pure line is established for each of the original pairs of parents used at the beginning of the investigation. Usually these true-breeding plants will be weaker than normal, and while



Garland

photo by James Payne

having the desired ear and disease resistance characters, their lack of vigor will make them of little use as crop plants.

At this point the breeder is ready to cross these two true-breeding lines. The usual result is a vigorous strain, breeding true for both desired characters. Difficult as it may be to understand, vigor returns upon intercrossing, even after several generations of inbreeding. The weakness brought about by the necessary inbreeding to secure pure lines is no barrier to success so long as cross-pollination within the strain is practical, once the strain is purified.

The foregoing has dealt with plants usually flowering in a year from the time of pollination, or by manipulation they may even be flowered within six months after pollination. To accomplish the latter some seed growers send harvested seed to the opposite hemisphere for a second crop within the year. By contrast, we who grow daffodils work at a snail's pace. Five to seven years will pass before we can expect to see the results of our first crosses. Thus, few of us have enough years ahead of us to attempt to create a "pure line" of daffodils that would breed true from seed, as do the growers of annual flower seeds. Fortunately, however, we have something else to rely upon, slow as that is. It is of course the vegetative increase (dividing of the bulbs) possible with daffodil bulbs. Each division from the original seedling bulb will produce the same flower as the bulb that first bloomed, except on those very rare occasions when a mutation gives us something new. Such mutations are commonly termed "sports".

Those who cross-pollinate daffodils should remember one thing of particular importance. The crossing of two daffodil varieties combines traits of both parents in the seedlings that result from that cross, some of which may be dominant over those of the other parent. Often the particular trait that the breeder is most anxious to perpetuate may not appear in any of the first crosses. In such a case, the breeder need not feel that all the desirable characters have been lost. Instead, he would do well to back-cross those seedlings with either or both parents for the purpose of bringing to view in the next generation those qualities of the original parents that appear to have been temporarily lost. Among the seedlings resulting from the back-cross the breeder will hope to find a plant with an even better combination of desirable characters than those that were present in the grandparents. Today the back-cross is an important tool in plant breeding.

At this point I am sure most readers have realized they need not wait five to seven years to do back-crossing. Thanks to those who have gone before us and have published records of their daffodil breeding, back-crosses can be made by building on an earlier breeder's work. For example, a few persons in this country, instead of making the cross, Guardian \times Kanchenjunga in the spring of 1959, can make the cross Guardian \times Empress of Ireland. Empress of Ireland of course came from the first cross, and with that knowledge we who are disciples of the great breeders need not go through the long years of waiting to have seedlings of the cross Guardian \times Kanchenjunga for back-cross purposes. We have a seedling ready-made for our use in Empress of Ireland.

Now that we have dealt with back-crossing, we should also consider briefly the subject of "selfing", the pollinating of a flower with its own pollen. When Guy L. Wilson made the cross that produced Empress of Ireland, the result was only one of many possible combinations that could have resulted from the cross Guardian \times Kanchenjunga. Bound up today in Empress of Ireland are many other possibilities which can be brought to light in endless array by selfing that remarkable flower. Those possibilities were not only contributed by its immediate parents but by its grandparents, great grandparents, and so on, back several daffodil generations. So do not hesitate to self-pollinate some of the finest varieties in your garden, so as to explore what they may have hidden within their germ cells.

Would-be breeders of daffodils will sooner or later wonder about parental dominance and will want to know whether they can expect the seed or pollen parent to be more dominant. We have an answer to that query in a most interesting little book published in about the year 1907 under the title *The Latest Hobby*, by two English writers, R. Chatwin Cartwright and Arthur R. Goodwin, who were apparently in the bulb business under the firm name of Cartwright & Goodwin. Whether their theories are generally accepted today I am not prepared to say, but a portion of their statement on the matter, found on page 33, is quoted for the interest it may have for present day daffodil growers.

“. Mr. Engleheart and numerous other raisers have demonstrated the endless possibilities obtainable by bringing about inter-marriages between the numerous Trumpet Daffodils and the

poeticus Narcissus. This cross can be made both ways, but it should be remembered that in at least nine cases out of ten the male is pre-potent in determining both the form and colour of the resulting hybrid. Anyone who has crossed Emperor or some other self-yellow Trumpet with poeticus pollen will recognize that as regards colour this is most marked, the seedlings in nearly every instance having white perianth segments. According to Mr. Engleheart this is why out of the immense number of flowers of *N. incomparabilis* that originally came from the Leeds and Backhouse collections, there were very few with perianths of a decided yellow, in comparison with those that had white or pale yellow perianths. The reason is that it is more difficult to obtain hybrids from *N. poeticus* than by its pollen, because it is much more quickly self-fertilized on opening than the Trumpet Daffodils. Then, again, white-perianthed flowers are certainly more attractive, and it is therefore not unlikely that Leeds and Backhouse seedlings belonging to this section were raised from Trumpet Daffodils by pollen of *N. poeticus*, which order of cross-fertilization has also the greater tendency to produce red cups, so deservedly prized for their brightness and the vivid colour they impart to the garden. The pre-potence of the pollen-parent in its influence upon form can be gauged by the fact that this same order of cross-fertilization produces the shorter crowned forms known as *N. barrii* rather than *N. incomparabilis*, while the reversed cross gives a greater proportion of the longer-crowned forms”

Those of us who read the words of Messrs. Cartwright & Goodwin may want to keep them in mind when evaluating the results of our own daffodil breeding.

In a discussion such as this, brief reference should be made to the influence of environment upon plant breeding. It is now a generally accepted fact that environment has no effect upon the heritable characters carried in the germ-cells of a plant. In other words, it will make no difference in the seedlings if the pollen parent used in the cross is the weakest Fortune in your garden, or the strongest. Pollen produced by either plant, if alive, will carry the same heritable characters to be passed on to the next generation.

Lest some may suppose that definite characters are not passed on from parent to seedling daffodil, they need only see two of the 1958 seedlings from Grant Mitsch, named Bethany and Nazareth. Both are classified *2d* and came from the cross Binkie × (King of the

North × Content). Both show Binkie's influence, as well as the influence of the cross King of the North × Content which gave us Guy Wilson's reversed bicolor Spellbinder and Grant Mitsch's two *Id* introductions for 1958, Entrancement and Nampa.

In considering this subject of daffodil breeding we should touch upon its purpose, since some of the daffodil enthusiasts in this country may feel it is impossible to improve on what we now have. In beauty that may be the case but there is still work to be done to give us daffodils that will survive under the varying growing conditions existing in this expansive land of ours. Important in this respect is the need to produce disease resistant daffodils that we can grow and keep year after year, rather than have to continually replace them. Two daffodils originated by Charles W. Culpepper and introduced last year illustrate what is meant. They are Red Sunrise and Snow Gem. Both thrive and increase in their area of origination, the Middle Atlantic States. Too, they are apparently resistant to basal rot. If they had been susceptible to that disease in the warm climate where they were bred, it is quite likely they would have disappeared from the seedling beds.

As a suggestion of what can still be done in daffodil breeding I quote with permission a part of the last paragraph of Guy Wilson's article "Recent Developments in the Breeding of White Daffodils," found in the 1955 *Daffodil and Tulip Year Book* of The Royal Horticultural Society.

"I have said enough to make it clearly evident that white daffodils have now attained size, purity and quality at one time dreamed of, and that we have an infinity of material available for their further polishing and perfecting. There is still room for some development for even more ideal habit of growth and type of bulb, and for greater refinement in the largest flowers. Another objective might be to enliven and illuminate gently the cold chaste beauty of some of them by decorating their trumpets and crowns with dainty rims of lemon, orange, salmon, cerise, pink or even green, while retaining green tones in their bases; this I believe to be possible. One line of approach might be through matings with Content and its progeny and, of course, intercrossing with some of our many charming, smaller-crowned, white-perianthed flowers that have almost white crowns with rims of color."

Labels and Markers

WILLARD A. KING, Bethesda, Maryland

HALF of the fun of gardening is knowing the correct name of the plants in one's garden. It is even more fun when all of your ornamentals are labeled for the benefit of the chance visitor. In addition to the education one gets from correct labeling, it affords a great deal of pleasure to the many gardening friends who are real horticulturists and not just crab grass growers. I love my garden and I love to have friends visit it, particularly those who really know their plants. Having such a large place it has been a real task to know what is the best buy in plant identification tags. A really good garden label is hard to come by as I have found out from experimenting with many types. Even today the perfect garden marker is something still to be desired. In giving you the benefit of my experiences I shall confine my subject strictly to markers which I have found good for daffodils. I am sure that there are many types I have not seen because some of the best labels are home made or are only available in some distant and limited area.

Fortunately there is a greater selection of short labels which can be used for daffodils than there are for taller ornamentals. Currently there are four types of labels on the market: wood, plastic, metal and half metal and half plastic. Let's look at each type for a minute.

WOOD. This was the first type of label ever to be used and was used by Adam in his garden of apples. It is still being used today by nurseries and for a garden or nursery which grows bulbs in rows they are still the best. For breeding purposes there is nothing better particularly if you number your seedlings. For pot culture of daffodils they are also superior.

PLASTIC. The main difficulty with most of the plastic labels on the market is that they crack in cold weather and warp in very hot weather. There are many on the market but the one which I have found to be best for daffodils is the Style H Tee Stake put out by Lifetime Markers at Milford, Michigan. It is snow white with reinforced edges and can be used with an ordinary soft pencil but a weatherproof crayon is preferred.

METAL. Like plastic there are many types on the market. They naturally outlast any other type but they are much harder to read

after you have inscribed a name on them either by embossing with a die or stencil or by using a weather proof ink pen on a silver colored zinc metal. When the name is first applied to the white zinc they are fine but gradually become duller from weather conditions. The one I like the best of this type is the Type C put out by Everlasting Label Co. of Paw Paw, Mich.

HALF METAL AND HALF PLASTIC. This is the type which I like best as the stake part of the label is metal and lasts for many many years. The label part is a soft grey green plastic which snaps on the metal stake and can be used over and over again. An ordinary soft lead pencil is ideal and lasts several seasons at which time you may write over the faded part of the letters or wash it off with soap and water which gives a nice fresh surface. Being a heavy gauge plastic this label does not seem to warp as others do and as yet I have never had one crack. The make I have in mind on this type is made by the Permark Co., Inc., 1 East 57th St., New York 22, N. Y.

Perhaps you have discovered a better one and if so please let us all know of it.

The Daffodil Arrangement

MRS. W. H. BARTON, East Lansing, Michigan

MORE perfect than a perfect flower is that flower in a perfect setting.

The beauty in a flower is its response to your loving care. This beauty should never be obscured by crowding. Use only a few, or if a large arrangement is desired, leave breathing space between each flower and foliage.

The daffodil should be hardened for at least four to five hours in deep cool water, out of drafts and in shade. After this procedure, shallow water will suffice.

Select location of the arrangement in the room. This decision will determine the size, color and texture of the finished design. The size of the arrangement must be suitable to space occupied, the color harmonious with surroundings, and the texture a suitable combination.

After the holder is firmly attached to the container, the tallest line (if foliage) or longest stem (if a flower) should be placed first. This is known as the primary line and determines the height. Next, the one or two lines defining the width should be added. When the arrangement is nearing completion some material may be added at the back of the arrangement, to give depth. All arrangements have height, width and depth.

The primary lines are reinforced by secondary lines, about two-thirds the length of the previous placements and usually facing in another direction. All lines should appear to spring from the same point and should be placed close together on the holder.

There should be a focal area located at the axis or place in the arrangement where all lines converge. The focal point should be in the center of this area.

The focal point should be the largest flower or the brightest color and is the outstanding feature of the design. It serves as the axle of a wheel with the spokes or lines radiating from it. Its function is to aid in establishing balance. For this reason it may or may not be in the exact center. It is, however, located in the center of horizontal and vertical design patterns.

The arrangement should have visual stability known as balance, otherwise it appears top-heavy and unstable. Use a gradation of size, the bud at the top, the half-opened and full-blown flower following in succession. Color balance is secured in the same manner, lightest color at the tip, medium and dark toward the rim.

If accessories are to be used with the arrangement they should be in place during construction of the design, never added later. Those articles used as accessories should be a good textural combination, harmonize in color and in correct proportion, never too small or too large. Accessories are useful in that they aid in establishing a mood, telling a story, establishing balance and increasing interest.

When combining flowers in an arrangement there should be dominance of one kind. This gives unity and cohesion. Usually a satisfactory selection is 70% of one kind, 20% of another and the remaining 10% of still another. If flowers of different forms, i.e. daffodils, roses, or carnations are combined, monotony will be avoided.

When the arrangement is finished place out of drafts, heat and direct sunlight. Arrange for fun!

Ways of Using Daffodils

ESTELLE SHARP, Berwyn, Pennsylvania

THE rabid daffodil enthusiast can never find enough places on his property for all the bulbs he wants. At times he may even welcome the death of some formerly loved tree or shrub because its absence will give more space for daffodils. Such a one will grow these bulbs almost anywhere, in rows, in beds, among shrubs, in foundation planting, under deciduous trees, in fact anywhere that is well drained and not actually under heavy evergreens. We all know that daffodils will grow sometimes for years in fairly uncongenial surroundings, and that their season of bloom is long. In this region it is from late March into May.

Bulbs grown for show or cutting in rows, have no landscape value. In the garden proper we can give more thought to the various ways of using daffodils. Generally we begin by putting a few in the flower beds. This is a good idea, but a word of warning is needed to the inexperienced. The love for daffodils increases by leaps and bounds. After a few years you have not only bought more bulbs, but also divided those you planted originally. The flower beds have become daffodil beds, which by June look very forlorn. Use only varieties of strong constitution, good habit of growth, and which give garden effect in flower beds — and not too many of these. When you want new varieties plant them in rows or off some place where you can study them for two or three years before moving them into the garden. In the meantime, if the good reliable varieties have multiplied, dig them up and save only a few to replant. Give away or discard the excess. It is easier on the back, the time, and probably the pocketbook to buy new bulbs. But the temptation to save every bulb remains. Plant them then, in orchard, woodland or field, if you are lucky enough to have such space around you.

In my old garden, shaded by oaks and elms, there are four central beds, roughly 24 by 6 feet. Here I plant three clumps of daffodils in each bed. Tulips and *Phlox divaricata* give a good show as the early bulbs wane, and ground covers keep things green until the hostas and lilies come in July. This year I am discarding com-

pletely the daffodil varieties I have had in these beds and have ordered new bulbs of old varieties. They happen to be white ones, because fortunately I remembered in time that there are numerous pink hyacinths here. Hyacinth bulbs forced in winter and planted out as soon as possible give smaller stalks and less top heavy flowers than those straight from the dealer. Beersheba will be planted for an early variety. It grows elsewhere, but I know I shall never get around to dividing it. Polar Ice is fine for a late one, and Tresamble which I have not grown before but have admired at shows and at Swarthmore, will also be planted. These three varieties will be planted in groups of five to seven bulbs. Perhaps the first year the clumps will not seem large enough, but time has a way of marching on, and before you know it, if all goes well, those clumps of five and seven will be out of scale with the size of the beds, and the foliage mass will take up too much space for the other plants to hide as it ripens. In such a location I bend the leaves over and tie with a flower stalk.

It is best, I find, to plant bulbs about the center of a flower bed, so that other plants will grow up later over the foliage. If planted at the back of the beds or borders, the flowers look too far away in early spring when little is in bloom in front of them. Most daffodils are too tall for the edge, except for the miniatures which really belong elsewhere.

In two longer beds on a side axis of the garden, daffodils grow in greater quantity. Here, too, is shade. A large ash on the north steals moisture from the ground, but in spite of this daffodils grow. Old varieties like John Evelyn (which I like better than Duke of Windsor), Fortune, Daisy Schaffer, Gertie Millar grow for years without attention. I note Hunter's Moon is not too happy, although it did well enough out in the rows. One more year, the third, will be given to Hunter's Moon in this location, and if improvement is not noticed it will go to a sunnier spot. Old Mrs. Krelage did well in this very place. In fact there are a few bulbs left which I missed! Day lilies, white phlox and peach bells (*Campanula persicifolia*) carry bloom through the summer with monkshood. In a good season, they give late bloom.

Sometimes orange cupped daffodils have been planted in the garden proper, but the result is not good. The brilliant cups are

much better in rows for cutting and show. With careful selection beautiful plantings can be made, but in an old garden there are apt to be surprises. There is sure to be an early red tulip, a pink hyacinth, or a Judas tree in the background which has been completely forgotten at planting time. And how it shouts at a Scarlet Leader or a Rustom Pasha! Planted with a background of evergreens and with all yellow daffodils, the bright orange and red ones are very effective. Or perhaps in a certain place where accent is needed, they can be successful. Extra care and thought must be given, however, when planting these beauties.

Often the suggestion is made to plant daffodils in front of shrubs. In a new garden this is an excellent idea, for there is space aplenty in front, or even between young shrubs. It must be remembered that shrubs have a way of growing faster than one realizes, and even when pruning shears are used severely, the bulbs will have to be moved forward every few years, or the shrubs will grow out over them. Planting daffodils around the foundation planting of the house should be done with restraint, not only because the shrubs will grow over them but also because of the unsightly ripening foliage. A variety like the popular February Gold is a "natural" for planting on the south side of the shrubs. It comes with us sometimes as early as St. Patrick's day. The little old variety W. P. Milner, which requires frequent division, is good for planting near the house because of its earliness, and due to size would be lost in a large planting. The really small narcissus, now called miniatures and becoming so deservedly popular, are best in a rock garden or in special places you create for them. Around a small pool, along steps, by a retaining wall or in a position where you see them from a window, are possible suggestions. It is a rare occasion to see them naturalized because hundreds if not thousands of bulbs are needed to produce an effect. At Wisley in England, *Narcissus bulbocodium* grown in this way is a sight I hope some day to see.

Naturalizing is the best way of all to use daffodils. Here I would recommend planting the small cupped, the poets, and the jonquils. Too often people buy collections for naturalizing. Among them will be the great large flowered varieties, such as Unsurpassable, Fortune, or Mount Hood. These are so definitely man-made flowers. They belong in a formal garden, not in woodland, or field. Forget the trumpets and large cups when planting in a natural effect. I have

made this mistake over the years as I have the habit, a bad one I admit, of planting my forced bulbs in the field. They do beautifully, often better than in the shaded garden, but the small cups are much more suitable.

To my surprise one spring I found several clumps of Binkie blooming in the grass. I had purchased exactly one bulb in 1950, and planted it in a so-called nursery row. Time came for division. I replanted, gave some away, in all about 40 bulbs. Doubtless some of these had been very small and were planted in the field. Too young to bloom for several springs, they were completely forgotten. The same happened to Cantatrice. Neither of these flowers seem out of place when naturalized. There are other exceptions, I am sure, but on the whole it is best to plant the smaller kinds. Jonquils are ideal, but do not increase the way I would like.

Since daffodils naturalized do not have to be divided, it is well to remember not to plant too closely or else the clumps will become crowded. A noted gardener told me four or five years ago that my original planting, done nearly 20 years ago, should be thinned out. She suggested just taking a spade and cutting out swathes through the thickest planting. I agreed with her absolutely, and each spring remember what she said, but still those same clumps bloom on in a most robust if vulgar manner. The further plantings, done later, have not had time to thicken and are much more effective with grass in between.

The books tell you to scatter the bulbs with a circular motion, and plant wherever they fall. The more irregular the spacing the more natural is the resulting planting. Be sure they are at least 18 inches apart, and plant a dozen or so of one variety together, or better still, twenty-five. Much depends, of course, on the size of the area to be planted, but if all varieties are mixed the effect is spotty.

To sum up these rambling paragraphs I recommend restraint in the number of daffodils in foundation planting or in formal beds; the purchase of new bulbs in place of dividing old ones unless they are very expensive or rare varieties; and the idea of planting most of your bulbs in places where the grass is cut only two or three times a season. Have exciting new varieties each year, but plant them in rows where you can fertilize, mulch and putter over them. Then move very special ones into the garden scheme when you find them satisfactory. And never forget that a new variety may be no better than an old one until it has proved itself in your own garden.

Worst Winter Worries and Some Simple Solutions

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Vice-President, Northeast Region

PERIODICALLY, the northeast corner of the United States learns anew that "temperate" is a misnomer for its climate. Blessed with productive doses of sunshine, spiked with 40" of rainfall well distributed through the year, and with soils that need but minor treatment to accommodate a wealth of plant life, gardeners are tempted to experiment widely with plants and with culture. We borrow freely from the Arctic to the tropics, from mountain to sea-shore, bog to desert. Cultural advice is imported as casually without regard for its origin. Each year provides enough extremes to alibi lesser failures, while most are kind enough to disguise our minor transgressions.

Then just as we are smug about our success with imports from other hardiness zones and are lulled into by-passing protective measures, along comes a winter like last, that forces us to reconsider their original source. We remember again that "temperate" is not synonymous with "moderate"; that many plants demand closer approximation to conditions of their native habitats than our climatic extremes provide; that the problems of other areas are not always ours; and that we must heed our own.

In the last few years, many gardeners of northeastern United States have been newly introduced to modern daffodils. As little conclusive evidence on varieties, types, or culture for our soils and climate has yet developed, we have borrowed heavily from practice in other centers of daffodil growing, with considerable success. But this spring, complaints were general from Pennsylvania to Maine, echoing my own results, that varied from disastrous to gratifying, and hinted that reappraisal of imported cultural advice was in order.

Ireland, after all, does not need protection from tropic summers. In neither our Southeast nor Northwest, does the thermometer sink to 20 below zero. Holland has a water table a steady 20" below soil surface. Its lack of precautions against occasional spring

droughts should no more be followed in northeastern America than should its panic lest bulbs be flooded during their dormant period.

The cultural problems of daffodils in this area revolve chiefly on methods of protection against both tropic summers and arctic winters. That is the dramatic difference between our climate and that of the Mediterranean belt in which the genus originated. A heat wave is an annual certainty, but it took the "worst winter in 35 years" to point out the specific dangers and the safest precautions.

Winter jetted in with an unprecedented drop in early December. The freeze continued, so that all those late fall chores that may usually be extended into December, such as a few last bulbs (especially tulips) planted, the final fertilizing, cultivating, and mulching done, were summarily curtailed.

My personal concern was principally for my daffodil test garden. In a flat open area I had planted about 400 varieties with meticulous attention to providing homogeneous conditions. This planting was part of a New Jersey project to test many standard varieties in our various soils under popular growing methods. I had supplemented with others, including my most expensive novelties. Trial and error had already taught me never to compromise with soil preparation the second foot down, and I had not. I had brought to the surface the clay sub-soil, counting on lightening it later with mulches after planting. In early spring the mulch would be dug in and replenished, to protect blooms from mud and bulbs from summer heat and future cold.

The early deep freeze prevented the final steps, and as I passed that naked clay patch, with its precise rows of labels flashing in the clear, cold air, I attempted to comfort my qualms by remembering that Miller Thompson of Georgia had reported that "daffodils bloomed better in clay than in loam." This was not my experience, but who would question results from the limited controlled testing this country has produced?

As the winter continued severe, and the hoped-for snow cover never appeared, reports came in from amateur bulb forcers of the heroic measures required to free their potted daffodils, sunk for rooting. All gardeners worried about their plants of known borderline hardiness. Agriculturalists reported the ground frozen to unheard-of depths and predicted staggering winter-killing. By February, the commercial forcers were discovering total losses of bulbs planned for Easter sale. Bulb wholesalers were considering entering the shoe business.

Early March brought a reprieve. Although professionals had abandoned their forced bulbs, amateurs from three states proudly displayed at the International Flower Show in New York over a thousand forced daffodils. Outdoors, many bulbs poked tentative spears through muddy surfaces. Then came the clincher! The mercury took another plunge, stayed down for a week, again with no snow blanket. The daring leaf-tips blackened, and inventory showed almost overnight browning of pieris, ilex, azaleas, and English ivy, that even this winter had left unscathed till then.

The Northeast really did need this spring when it finally arrived; everyone felt he had earned it. Early growth confirmed suspected losses, not only in woody plants, but in roses, chrysanthemums, iris, hemerocallis, and many other "hardy" perennials, such as dictamnus, peonies, and phlox. As always, the daffodils began the parade of bloom but soon showed that this year they would be discriminating with their favors. They penalized every heedless or unknowing lack of attention to their requirements, but they also repaid bountifully those who had supplied their needs.

My test beds were so poor that I was sure they indicated serious invasion of diseases or pests. I recalled stories of whole plantations being wiped out in the past. But, as symptoms pointed to nearly every daffodil problem in the book, common sense told me that all could hardly have been imported simultaneously from the world's leading suppliers. Also, it soon became obvious that bulbs from the same lots were poor in test beds and thriving in other locations. Observation indicated correlation of success and protection, of failure and exposure. Disappointment was finally superseded by an attempt to cull as much positive information as possible from this "worst winter".

I noted and charted results from a wide variation in terrain, protection, bulb type, and age of planting. While this hardly represented controlled, scientific testing, the chart, nevertheless, indicated definite conclusions, which for practical purposes should be useful until more definite studies are made.

All plantings had this in common: all were in clay-on-clay Gloucester soil, predominant in northeastern America; all had had sub-soil exchanged with top and reinforced by humus; phosphates, in which this soil is deficient and which moves very slowly through it (3" in 7 years, by test in similar soil), had been introduced below the bulbs. Previous years had permitted mulching: peat moss,

half-rotted leaves from the pond, or chips, used in consideration for the cost of variety and formality of location. No 1958 plantings, of new bulbs or old, were mulched.

OBSERVATIONS OF RESULTS FROM VARIED CULTURE
IN NEW JERSEY, 1958-59, LISTED IN ORDER OF LOSS
(15 to several hundred varieties in each group)

TOTAL LOSS TO NO BLOOM OR LIMITED BLOOM:

1. Miniatures planted in pots sunk in open ground.
2. Bulbs near walls or in rock garden, where heat could be lost horizontally.
3. New plantings in exposed areas (unmulched).
4. Two-year plantings, in flat, exposed beds, fortified by peat moss or with traces of previous mulch remaining.

BLOOM INFERIOR TO OTHER YEARS WITH SIMILAR CULTURE:

5. Two to four-year plantings in exposed location, 4" chip mulch remaining.
6. Open border. (One to ten years down.) Backed on the north by a 5' hedge, this deep clay loam had been short-changed as to humus for two years.

BLOOM ADEQUATE TO SUPERIOR:

7. New plantings on southern slopes among high-trimmed deciduous trees interspersed with low shrubs and rocks.
8. Old groups near house or on bank under high trees, in loose loam with ground covers.
9. Established plantings (3-5 years down) on slopes, any exposure, but with high trees, well mulched with chips in former years.
10. Old plantings (3-7 years down) on southern slopes, heavily interplanted with shrubs, flanked with tall trees. Soil "made" from former dump by subtraction of debris and addition of pond muck. This soil was lighter than others, because a considerable quantity of coal ashes remained from dump.

These results seemed to indicate that in our worst winters, daffodils demanded some, and preferably all of four types of protection: (1) insulation within the soil supplied by humus, (2) im-

mediate surface cover supplied by plants or mulch, (3) high protection provided by neighboring shrubs, trees, or buildings, and (4) sloping terrain (especially in combination with some of other methods). All methods appear to create a micro-climate for the plants closer to that which their ancestors knew. That these protective measures will also guard bulbs from damage from summer heat and from occasional spring drought is as obvious as it is gratifying.

It was only natural to wonder if this "worst winter" could lead to indications of especially hardy varieties or at least types. I plan not to duplicate varieties in different areas, to avoid monotony, but there is enough overlap to confirm the general cultural conclusions. As to types, with somewhat more overlapping, a pattern of hardiness seemed to emerge. Aware of the danger of leaping to conclusions on limited evidence in a genus of such mixed ancestry, I offer a few results that were striking, hoping that in this field, too, others will follow with scientific testing.

HARDINESS BY TYPE IN NEW JERSEY, 1958-59

LEAST PERSISTENT TYPES:

Jonquils: species and hybrid, disappeared or deteriorated severely, except Trevithian and Cheyenne.

Tazettas: Flanked by other types that received same culture and did well, many disappeared or failed to bloom.

WEAKER THAN AVERAGE:

Class 3c in general, pinks, trumpets and species.

TOUGHEST TYPES:

Doubles: To my surprise, both new and old bloomed exceptionally well.

Cyclamineus: I have frequently heard questioned the hardiness of this early group. We have found they thrive in mid-Maine, and this winter proved them to be exceptionally hardy here.

We all hope there will be even more than 35 years before our gardens must meet such a severe test again, but we can be sure that extremes of temperature will continue to be our lot. So let us observe the precautions our climate demands and be neither alarmed nor lulled by dicta from other sections until proved to apply to northeastern United States.

Judging Exhibition Daffodils

HELEN K. LINK, Martinsville, Indiana

Chairman, Daffodil Study Schools

EXHIBITION daffodils should be judged against perfection for the variety and not against one another. It is most important that judges know varieties in order to establish a mental picture of perfection for a particular variety. No judge can properly evaluate material which he has neither grown nor studied.

A judge should not allow personal preferences to influence a decision. The judge who tells you that he does not grow doubles because he dislikes them, should put aside this feeling at the show bench and be as conscientious when judging one division as another. Miniatures should receive the same careful consideration as large blooms.

In judging exhibition daffodils, the scale of points adopted by the American Daffodil Society allows 20 points for condition. Qualities which should be considered under condition are age of bloom, which should be neither too young nor too old, and absence of minor blemishes, such as rain spots, sunburn, dirty marks, nicks, and splits in the crown or perianth. In close competition some fine points which should be considered are the condition of pollen sacs (anthers) and stigma, size of ovary, and condition and color of the sheath. The anthers should be creamy-yellow with a fresh appearance. If the pollen is gone and the sacs are tan or brown, the flower is aging. The stigma should glisten with a small amount of moisture. If dry and shriveled the bloom is past its prime. The ovary, the immature seed vessel which is found directly behind the bloom, should not be unduly swollen. The sheath should be present and should be light brown.

Form of bloom receives 20 points. The flower should have six even overlapping perianth segments and the inner whorl or petals should overlap the outer whorl or sepals in a regular manner. The cup or crown should be well balanced in proportion to the perianth and the segments should be flat, although a slight incurve or reflexing need not be penalized. A very slight incurve of petals is not a serious fault in certain varieties. When the incurve is so pronounced

that the petals take on a definite hooded effect, however, then form must be penalized. Some varieties normally have a slight reflexing of petals. *Cyclamineus* and its hybrids would be deficient in form without this characteristic. The petals may be round, heart-shaped, or pointed, and in certain varieties slightly wavy, but waviness should not be exaggerated.¹ The cup or crown may be serrated, flanged, or frilled, but must not be ragged or split except in a few cases of recent hybrids as, for example, with the variety *Evolution*. This is another illustration of the need for the judge to know varietal characteristics.

Texture is the smoothness or roughness of the tissue structure of the bloom. Crêpiness and ribbing are faults. Texture and substance receive 15 points. Substance is the firmness and thickness of the tissue structure. The first sign of loss of substance will be found on the edges and tips of petals and will be characterized by thinness and loss of sheen and translucency. This is followed by browning of the edges of both the segments and cup. Loss of substance is often confused with condition, because the lasting quality of a flower is closely related to substance. Blooms with good substance keep well both on the plant and as cut flowers.² The presence of sheen denotes fineness of both substance and texture.

Color is given 15 points. There should be no streaking or muddiness, and the color should be rich and pure. Some varieties are characterized by peculiar color qualities and here again the judge must know perfection for that particular variety as, for example, *Jezebel* and *Rouge*. Because vivid colors may not be sunproof, improper handling may result in washed-out coloring. Soil and weather conditions may also influence color. Bicolor varieties should have definite color contrast. There should be no doubt about the classification of a bicolor bloom. Although some shading or staining of a deeper color is permitted at the base of the perianth, staining as a rule is not a good point in an exhibition flower.³ White trumpets should be white, although a faint tint of green at the base of the segments and on the back of the cup is permissible, and preferable to yellow.⁴

The pose of a daffodil, or the angle at which the bloom is attached to the stem, receives 10 points. The pose varies with certain divisions. In 1, 2, 3, 4 (with a few exceptions), and 9 the bloom should be nearly at right angle to the stem, and when viewed from its own level should "look you in the eye." Some authorities have voiced

their opinion that we should not be too rigid in demanding that blooms be at right angles to their stems.⁴ A slight tilt either up or down is not objectionable. The neck should not be so long as to allow the flower head to droop. It is possible, however, for the neck to be so short that it produces a stiff appearance. In respect to pose, divisions 5, 6, 7, and 8 have their own characteristics, which the judge must be able to recognize. This is a matter which is becoming more important each year due to inter-divisional hybridization.

The stem should be strong enough to support the weight of the flower head, long enough to be in proportion to the size of the flower, straight, and not unduly thick. It should be green and not have a blanched end, as this area will not absorb water well after the flower has been cut.⁵ The ADS scale allows 10 points for stem. Ten points are also allowed a bloom for proper size, according to variety. Other qualities being equal, the larger flower should be chosen.

There are a few other things to be considered when judging daffodils which are not included in our scale, but for which judges should give extra points in close competition. Balance and position of anthers, fall into this category. There may also be added value in good balance between perianth and cup. This equipose is difficult to define, since we have both trumpets and small cups in perfect balance. The length of the petals, width, shape, and general appearance must be considered in deciding whether there is any lack of grace in the bloom. Every part of a bloom should be in proportion to every other part. If an imaginary projection of a line drawn along the stem through the face of the bloom coincides with the midrib and tip of a major or minor petal at both top and bottom of bloom, then the flower has "axis balance."² This is a fine point, but when judging becomes close, minutiae have to be considered.

Some attention should be given to the arrangement of the anthers around the stigma. The great Irish hybridizer, Guy L. Wilson says,⁴ "In some trumpets the anthers stand a little way apart from the stigma and from each other, which seems to give a slight coarseness or untidiness of aspect; those, and they are the majority, in which the anthers lie closely around the stigma are more pleasing to the eye. Again occasionally in medium-crowned varieties the heads of the anthers assume a horizontal position at right angles to their stems forming a little star around the central stigma; this when very

pronounced, disturbs the eye, as the star formed by the anthers is rarely quite symmetrically arranged; but this is a minor defect."

Judges should remember that when points are deducted for faults in one quality, they must not be deducted elsewhere for the same fault. As an example, inexperienced judges are apt to deduct points from both condition and substance if there is a lack of substance, or penalize stem as well as pose for a neck which is too long. It makes little difference from which quality faults are deducted so long as the faults are recognized and the blooms penalized.

There is one more quality which is important on the show bench, the elusive virtue of refinement or good breeding. A survey of the blue ribbon winners on the show bench will demonstrate this point more clearly than words.

1. C. B. Habershon, "Points of a Good Daffodil and How to Stage Daffodils for Exhibition," *The Daffodil and Tulip Year Book*, Royal Horticultural Society, 1950, p. 14.

2. William Jackson, "Form in Daffodils in Tasmania," *Daffodil Year Book*, Royal Horticultural Society, 1938, p. 26.

3. C. H. Curtis, "Points of an Exhibition Daffodil," *Daffodil Year Book*, Royal Horticultural Society, 1938, p. 23.

4. Guy L. Wilson, "The Points of an Exhibition Daffodil," *Daffodil Year Book*, Royal Horticultural Society, 1939, p. 56-58.

5. M. J. Jefferson-Brown, *The Daffodil*, London, Faber and Faber, 1951, p. 176.

Daffodils in the Cool Greenhouse

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MANY keen daffodil growers, both amateur and professional, in the British Isles grow a few bulbs of their best things in pots in a cool greenhouse each season, with the object of obtaining flowers of the highest quality a short time before they are in bloom out of doors. No attempt is made to force the flowers as is the practice with commercial cut flower growers. These notes describe my own practice here, where I grow several hundred pots each season.

The first essential is to obtain sound bulbs. Either double nosed or good rounds will prove satisfactory. I use pots of 8 to 10 inches

in diameter putting from one offset, in the case of a scarce new variety, to six or even more double nosed bulbs of those in plentiful supply.

The compost used consists of four parts good loam, one part peat and one part sharp sand, thoroughly mixed, to which a very light dusting of bonemeal is added. The pots should be well drained with crocks in the usual way and the compost made reasonably firm in them. The bulbs are potted so that the noses are just covered with soil and after careful labelling the pots are immediately plunged in a bed in the open garden. A bed of well weathered coal ashes would be equally satisfactory. This is of really fundamental importance, as good flowers cannot be produced until the bulb has made a really good root system. Before plunging the tops of the pots are covered with some sand or a little moss to prevent the soil in the pots becoming mixed with that in the plunging bed. The pots should be stood on slates or similar hard material to prevent the entry of worms through the drainage holes. Then fill in between and cover the rim of the pots with about two inches of soil or ashes as the case may be.

The pots are allowed to remain in the plunging bed until well into the New Year. The actual time of lifting depends on the date when flowers are required. Those needed for exhibition at the end of March require to be brought indoors in February. Those needed later will naturally be left longer in the plunging bed. Time of lifting, of course, depends largely on local climatic conditions.

After lifting, the pots should be washed and the moss or sand removed from the top of the compost. As growth develops staking is required and I find four strong wire stakes placed round each pot most suitable using green material for tying.

Varieties being grown for an early show may require a little artificial heat to have them in flower in time. Just enough to keep out the frost is essential as the pots must not be allowed to freeze at all costs. It is really fascinating endeavouring to have varieties which naturally flower at different times in bloom together in time for a particular show. Late varieties are given a little gentle coaxing, but I emphasize it has to be gentle. Too much heat can be disastrous, especially in the case of red cupped varieties. It is sometimes necessary to take the pots which are coming on too quickly and place them in a cold frame for a few days in order to retard development.

Naturally as growth is proceeding rapidly ample supplies of water are needed by the plants. In addition the atmosphere of the greenhouse should be kept moist by constant damping down of the benches and floor. This is of fundamental importance as daffodils grown in a dry atmosphere will never develop their full size and substance. Personally I never feed my pots during the growing season but, if thought necessary, a light feeding of a well balanced fertilizer could be given.

It usually takes from seven to ten days from the time the buds begin to open until the flowers are at their best and fit to cut for exhibition. I fear many amateurs make the mistake of cutting their flowers much too soon as the blooms develop much better on the plant. This applies particularly to the trumpets and large cupped varieties.

Most varieties come in splendid form indoors but in the case of some red cupped things it is sometimes difficult to obtain full colour in the cup. They require to be kept cool, and the temperature should never be allowed to exceed about 53°F with artificial heat. Naturally the temperature will rise during spells of bright sunshine in the daytime but usually this does not do any harm. In very bright sunny weather it is advisable to shade the greenhouse slightly in order to enable the flowers to last.

The selection of suitable varieties is important and the following short list have all proved satisfactory, coming consistently well each season.

Starting with yellow trumpets Cromarty, Kingscourt, Dungannon Principal, and Hunter's Moon are all first rate. Bicolor trumpets include Ballygarvey, Effective, Sincerity, Preamble, and Trousseau. The latter is quite superb coming with wonderful colour and lasting an amazing time in good condition.

Whites are all fairly easy indoors and Ardclinis, Beersheba, Ave, Cantatrice, Carnlough, Glenleslie, Glenocum, Kanchenjunga, Broughshane, Ludlow, Parkmore, Kilrea, and Truth are just a few from which to select.

The self-yellow large cupped flowers Golden Torch, Ormeau and Havelock are all very fine, and the old variety Carlton comes well although this is a poor quality flower by today's standards.

Red cups are rather more difficult and for a beginner I recommend Ballymarlow, Craigywarren, Dunkeld, Sudan, Red Ranger, Saltash and Rustom Pasha as the easiest and most consistent.

Red and whites are later but give excellent results. Glenwherry, Matapan, Mahmoud, Kilworth, Fermoy and Hillmount are all good and easy doers. Amongst the lovely late rimmed-eye things Ballycastle, Tinsel, Foggy Dew, and Angeline are worthy of trial.

These notes are of course based on my conditions here in Northern Ireland where we have a dull late climate but escape extremes of either heat or cold, rarely having more than a few degrees of frost in winter. Under more severe conditions pots buried in the garden during winter would no doubt require much more protection from frost than is my practice here.

Summer Care of Daffodils in the North

STANLEY H. WOLEBEN, Dearborn, Michigan

UNDoubtedly more daffodils would be included in gardens were it not for the problem of what to do with them when the flowering period is over and their place is wanted for other flowers. Many a gardener is of the opinion the bulbs need to be dug up, dried and stored until fall planting time. This duplication of effort and time is unnecessary.

For those who have practiced shallow planting, the bulbs can be dug up after the flowering period, intact with the foliage, and simply heel them in a shallow trench in some other place in the garden if — and this is a big “if” — the space they occupied is wanted for some of the deeper-rooted annuals. Even then the foliage should be allowed to die down of its natural accord, and the seed pods removed. This method applies principally to the large-flower varieties, and to bulbs of the trumpet class.

However, this method means that sooner or later the bulbs will have to be removed from the trench to allow for a hardening-off period before replanting again. So what is gained?

The smart gardener, alert to the necessity of permitting the foliage to ripen for the next flowering season, has only to plant the seeds of the annuals over the daffodil plantings as soon as spring permits. This is especially desirable where some of the miniatures are

planted. The rush-like foliage will not only shade the emergence of the annuals, but complement them as well.

Most catalogs stress a depth of 5 or 6 inches. They neglect (perhaps intentionally) to state that shallow planting encourages splitting of the bulbs. This inevitably means that the bulbs will produce flowers of substance for the first year or two, after which they lose their vigor. New clumps appear with less and less blooms, indicating an over-crowded condition as they rob each other of nutrients and struggle to survive

Plant the bulbs at least to a depth of 10 inches!

This discourages splitting; the stalks will be stronger and become much more capable of supporting larger blooms, and the foliage will be correspondingly richer and more inclined to resist *Botrytis* blight. They will bloom for many years if given enough moisture and proper feeding.

The foliage need not be the annual problem so objectionable to many gardeners. They can be braided into a clump, bent down and tucked in a ball, where by their own weight, they will "stay put," allowing freedom for the annuals. Or they can be laid on their sides and held in place by a light covering of soil or mulch. In fact, a mulch is ideal! One can use a variety of materials. Peat moss is excellent, for it reverts to humus and the nitrogen contained therein is not excessive, a factor to be considered. Other materials can be ground corn cobs, leafmold, or oak or beech leaves which do not mat down. In the southern states peanut hulls have been used. A mulch will keep down weeds, preserve moisture and has a tendency to keep the soil surface warmer in winter, cooler in summer, by as much as 5°F.

For many years bonemeal has been the accepted fertilizer for daffodils. However, it remained for the U. S. Department of Agriculture to prove that bonemeal is now surpassed by 0-20-0 superphosphate. Whereas the former takes at least nine months before it becomes available to the plant, superphosphate is fixed in the soil very soon after application in the bedding area. Nor does it leach out or travel. Three pounds worked in an area of 100 square feet is sufficient. When applied as a top dressing in spring when the shoots first appear, care must be taken to work it in lightly.

During the summer months keep the plantings moist but no soggy; mulch and feed as directed.

That is all the care they need.

Color in Daffodils

MRS. W. J. PERRY, Staunton, Virginia

THE daffodil classification of the Royal Horticultural Society is based on the size, shape and color of the various garden hybrids. The American Daffodil Society observes the Royal Horticultural Society Classification but recognizes further differentiation according to color and size in its recommendations for show schedules and further type classification. The Society separates the orange and red cupped daffodils in Division 2a and 2b and prefers not to subdivide Division 5 and 6 according to the size of the cup. The pink cups are put into a completely separate classification although the *jonquilla* hybrids such as Cherie are not included. We in the Garden Club of Virginia follow the classification of the Royal Horticultural Society in our show schedules but recognize the differences in the 2b classification among the orange-red cups, the yellow cups and the pink cups. In 2a the self yellow is differentiated from the orange-red. Miniatures are now placed in the schedule with species and wild hybrids under Division 10-11 according to height, under six inches and from six to twelve inches. Some catalogues classify the various colorings in the large cupped division as 2a1 (self yellow), 2a2 (orange-red cupped), 2b1 (yellow cup), 2b2 (orange-red cupped), 2b3 (pink cup).

My specimen daffodils are planted according to color which is the hobby horse I am riding in daffodil culture. Our Test Chairman, Mrs. Walker, does not recommend this for local Test Chairmen as she prefers the yearly collections to be kept separate. However, for one who has a fairly large number of specimen bulbs in each division, it is fascinating to see the variations in color within the same color classification when planted together.

All my 1c's 2c's and 3c's are in one bed. This could include the *triandrus* hybrids but I prefer to keep the 5's together so many have more than one bloom to the stem and their shape is so definitely characteristic. In the whites the variations in color is remarkable. There are very few that open pure white: Zero, Courage, Bryher, Frigid, Cantatrice among others are a few that are pure white in color. Harry Tuggle had a very good article in the last Yearbook

of the American Daffodil Society. Mt. Hood and Gyrfalcon are two that open with almost yellow coronas. Many of the 3c's have beautiful, cool green centers to the cups. Cushendall is characteristic of this. The whiteness of the white varieties vary in the perianth. Some are ivory or milk-white such as Corinth and Nevis. Some of the frilled cups remain lemony-citrous such as Carnlough and Glenshane. The shapes of trumpets and cups fascinate me. The lovely, long tubular trumpet of Beersheba differs greatly from the bell shaped trumpet of Mt. Hood. In 2c's Ludlow and Silver Bugle have the bell shaped cup while Pucelle, Tenedos and Zero have the slender, tubular cup. Cicely is dainty and completely straight. The wavy perianth of Bryher and Samaria contrast with the flat waxy perianth of the superb Chinese White.

The yellows have even more variation in shape and color. In the trumpets (1a) all shades are represented from the lemon of Hunter's Moon and greenish citrous of Moonstruck to the pure yellow of Milanion and Moongold to the deep gold of Dungiven, Goldcourt and that prince of yellow trumpets, Kingscourt. In the large cupped division, 2a, there is the same shading. St. Egwin, Christian, Havelock are much lighter than Golden Torch, Galway and Amberley. The perianths differ in their coloring. Spellbinder and Binkie are the two examples of the reversed bi-color in the trumpet and the large cup, although I understand Grant Mitsch's Lunar Sea and Harry Tuggle's Cocktail are as outstanding. There is no lovelier yellow color than that found in the *jonquilla* but I keep these separate because of their scent and shape. In the bi-color trumpet and large cupper (1b and 2b1) all the shades of yellow are represented. Content, Sincerity and Trousseau are the beautiful pale sisters of the more brilliant Preamble, Effective and Foresight. The color range in the 2b1's extends from the pale, lemony blush of Tunis through the clear yellow Polindra, Waban, Greeting and Gertie Millar to the gold of Green Island.

The breeding of the so-called red cups has produced many fascinating flowers but to my eye the true red cup has not appeared, although I confess my knowledge is limited. I can see all shades of orange and orange-red but no real red. To see plantings of these together is revealing. The few sun-proof varieties distinguish themselves among their fellows, such as Ceylon and Rustom Pasha. The solid colored cups are more striking than those with orange-red

bands, Narvik as against Diolite, Fermoy as against Kansas. The richness of the 2a2's and 3a's together show the contrasting density of the yellow in the perianth while the colored cups of the 2b2's and 3b's appear strikingly against the white perianths. I do not care particularly for the reddish yellow perianths of Rouge or Apricot Distinction. In these classes shape is extremely interesting. The straight cups of Narvik and Red Goblet seem to me so much more appropriate than the flaring Fortune or Cotopaxi. In the 3b's the same applies to Daviot as opposed to Duke of Windsor. These latter appear rather blousy to me. This is all a matter of taste, of course.

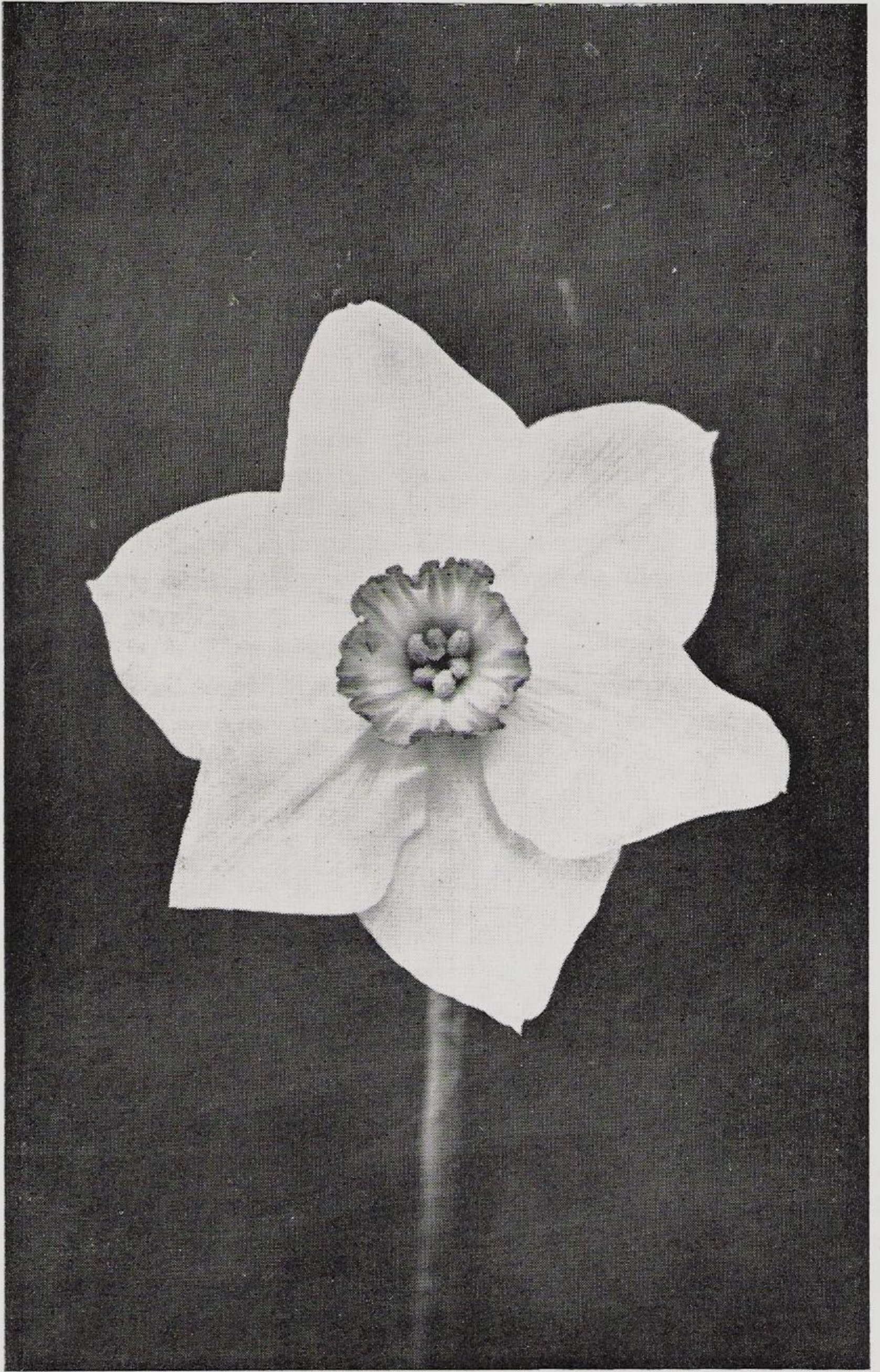
This color leads us to the apricot-peach and finally the pink groups. The latter includes yellow cups with pink coloring in the mouth or rim such as Cannes and Interim. Lovely, lovely the delicate shadings, the pale primrose of Rosegarland deepens in Siam and the old favorite Mrs. R. O. Backhouse. Most of the pinks open salmon-yellow as Lovenest and Loch Maree. Many of the 2b1's have a delicate flush such as Coverack Perfection, but cannot be called pink. The beautiful peach of Buncrana and Daviot shows to advantage the pink planting. The jonquils, Cherie and Cheyenne, are also in this group.

The 3b2's prove their descent from the poets in the snow white perianth and jewel like cups. If there is a true red it is in this group or in the poets themselves. Mahmoud and Limerick are two of my favorites. The delicacy of Dreamlight, Misty Moon, Blarney and Rubra has a place all its own.

This can only skip over the variations in color due to the thousands of available bulbs and my limited knowledge. But it is thrilling to see the development of these characteristics when the cousins in color are planted together.

No mention has been made of the doubles, tazettas and *cyclamineus*. I have these to themselves although I have never had much luck with doubles. The poets are also together although it seems to me that many 3b's are similar. Only the 3c's can approach the crisp, waxy substance of the poets.

Hybridizers will continue to work patiently as Grant Mitsch is doing in this country and the great Irish daffodil growers, Guy L. Wilson and Lionel Richardson, are doing in their country, until we have even greater clarity and purity of color.



Kildrum

photo by James Payne

Daffodils in Oregon

ALLEN W. DAVIS, Portland, Oregon

IT'S DIFFICULT, in a way, to give a brief digest on cultural practices in our area, because we have so many different types of soil around metropolitan Portland, all the way from almost pure gravel and rock to the heaviest kind of clay loam.

For the past three years I have been treating all of my daffodil plantings in mid-May, when the daffodil fly is about and getting ready to lay its eggs up close to the stems, with a 25% emulsion of Heptaclor. I use a large sprinkling can and soak the soil around my daffodils in beds and pots. This emulsion has a residual killing effect, and gets practically all of the little grubs as they hatch out. Dieldrin, Chlordane and Aldrin will probably do a good job too, but Heptaclor emulsion has done a wonderful job for me. I used to have a lot of trouble with the fly, but last summer when I dug about 2,000 bulbs that had been in the ground for four years (too long) I only noticed 8 or 10 bulbs affected by the grub. This emulsion is also a good dip just before planting for the home gardener.

When to dig and divide old clumps of daffodils is purely theoretical with me, as I never get half of the things done because of lack of time. Now that I have retired I am gradually catching up on some cultural practices I have had in mind. We have lived at our present home since we built it in 1936, and we still have some daffodils in the ground that were planted in 1937. A few blooms still appear every year. But I think, for best results, the average home gardener should plan to dig, divide and replant every three years.

The time to dig depends to some extent on the season, the condition of your soil, and your storage facilities. Normally late June or early July is about right, as our two hot months are July and August. The rainfall is very scarce, and digging may be quite a chore if you wait until mid-July to early September.

Our best planting time is usually from mid-September to mid-October. After that our fall rains are apt to complicate matters and make the ground unworkable.

We should start to prepare our beds for planting any time from the first of September on, whenever our soil is workable. If we keep adding humus to our soil every year when we are working it over before planting, it will simplify the problem for future years. We have a heavy clay loam at our home, and I add compost and peat moss and raw bone meal every year when I dig the soil. I usually dig a spade's depth, but I realize it would be better to dig deeper. I do it all by hand, so it is difficult to dig deeper. If your beds are laid out in such a way that you can use mechanical equipment you can do a much deeper and better job. When preparing the soil the past two years I have added some granular 10% Aldrin to be worked in while spading. It has an offensive odor which the moles don't like, and they generally stay away until your bulbs are thru blooming the next spring. The moles don't damage the daffodil bulbs, but they do cause considerable drying out of the roots as they tunnel around and under the bulbs.

I usually plant my bulbs about six inches deep to the base of the bulb (except for miniatures) and on the average about six to eight inches apart (except for miniatures). After planting I top dress my beds with peat moss (about one inch deep) and this does double duty as a mulch to keep the soil in good friable condition on the surface and also absorbs the heavy rains we are apt to get during blooming, thereby preventing any mud splashing upon the blooms. It is so much easier to weed a bed top dressed with peat moss, or any other suitable material. Many people use sawdust out here because it is cheaper than peat moss, but it always looks too much like a nursery to me. I prefer peat moss, as it is a natural brown color and does not rob the soil of nitrogen when it is worked into the soil later.

I have had good results from giving my daffodil plantings a liquid fertilizer in late January or early February. I use a local product with a formula of 5-10-14, but any similar product not too strong in nitrogen will give the bulbs that extra boost when they need it the most.

We are apt to have considerable trouble with *Botrytis* on the daffodil leaves if we have excessive rain in or before the blooming season, and a preventative spray with copper or fermate helps to control the spread of the disease. This year the foliage looked wonderful to start with, but we had excessive rains with much cloudiness in March and April and the foliage was affected badly.

Report of Registration and Classification Committee

EDITH H. WALKER, Martinsville, Virginia
Chairman, Registration and Classification Committee

OF all the best laid plans of this Committee as reported at the Annual Meeting in 1957 and published in the 1957-58 Yearbook, one has undergone a change, two have been accomplished, also new projects have been added.

CHECK LIST OF ALL DAFFODIL VARIETIES IN AMERICAN TRADE

A check list of all varieties of daffodils in American trade has been compiled by the Bailey Hortorium, with our cooperation, and is on file there. One of the services of the Hortorium is keeping such files of various plant families and their sources, for reference by anyone seeking information on their existence or the sources where they may be obtained. It is necessary to revise this file continually in order to keep it up to date, and the staff of the Hortorium is better equipped to maintain this file than the American Daffodil Society. Since the information contained in the Hortorium file is freely available to anyone seeking it, the President, the Registrar, and the Chairman of the Registration Committee of the American Daffodil Society have agreed that it is advisable to drop the plan to have a duplicate file. Instead, they recommend that the services of the Bailey Hortorium be used by anyone desiring the information described above.

THE AMERICAN HORTICULTURAL COUNCIL HANDBOOK FOR REGISTRARS AND PLANT ORIGINATORS

The American Horticultural Council has published within the past two years a Handbook for Registrars and Plant Originators, prepared by the Council's Commission on Nomenclature and Registration, under the chairmanship of Dr. G. H. M. Lawrence of the Bailey Hortorium. Its purpose is to provide guidance to any person engaged professionally or as a hobbyist in the originating or introducing of new garden varieties of plants. It is written as much for the amateur as for the professional. Copies of the Handbook are in the possession of the President, the Registrar, and the

Chairman of the Registration Committee of the American Daffodil Society. Anyone else desiring a Handbook may obtain it from Dr. Donald Wyman, Secretary, American Horticultural Council, Arnold Arboretum, Jamaica Plain 30, Mass., or from Dr. G. H. M. Lawrence, Bailey Hortorium, Cornell University, Ithaca, N. Y. The price is \$1.00.

CHECK LIST OF UNLISTED OR CONFUSED DAFFODIL NAMES

From all available catalogues of known dealers in the United States, a list has been compiled of varieties not appearing in the Royal Horticultural Society Classified List and International Register, either because they have been dropped from the list as no longer in existence or in commerce, or because they have never been registered. A list of varieties with confused or duplicated names has been added in the hope of bringing some order and clarity out of the confusion. This list, begun in 1957, has been brought up to date as of August 1959, and will be kept so by regular checking. It has been turned over to the Registrar for consolidating with the RHS List to form a master check list of all daffodil names in use in this country, for reference before forwarding applications for registration of new varieties to the RHS. (Lists available, if wanted.)

A study of these lists reveals that many of these "renegade" bulbs offered by dealers appear to be of Dutch origin, although there are a few from Australia and New Zealand. The Registration and Classification Committee has recommended that the ADS appeal to American dealers to: (1) Make a practice of listing in their catalogues only those varieties registered with the RHS, and (2) Cooperate with the Registration Committee of the Society in securing registration of varieties not listed in the International Register. Because of the vast number of small local dealers scattered throughout the country, it was considered impractical to approach this problem through dealers alone. Possibly a more effective method would be to try to control it at its source by appealing to the Dutch Bulb Growers Association. Consequently, the cooperation of this organization is being sought through its representatives in New York and in Holland. Other control measures suggested are (1) limiting awards in ADS shows to registered varieties; (2) building up a sentiment against buying, selling, or showing unregistered varieties, except seedlings under number. We also recom-

mend appealing especially to young breeders for cooperation in registering their originations.

Other facts revealed by a study of the catalogs of 1957, '58 and '59 are: (1) Some of the unregistered varieties appearing in 1957 catalogs have since been registered; (2) some unregistered varieties listed in 1957 catalogs have since been discontinued or dropped from the lists; (3) Confusion in regard to names of daffodil varieties is sometimes due to the mistakes or carelessness of the printer or dealer who issues the catalog. After all, spelling and classification of thousands of names is a tedious task, and honest mistakes are liable to occur.

Practically all the dealers whose catalogs we have scanned, list some "renegade" or unregistered varieties. The two exceptions for 1959 are Charles H. Mueller of New Hope, Pa., and Thomas E. Haymaker, of Fincastle, Va., who are eligible for our Honor Roll with an absolutely clean slate.

AMERICAN BREEDERS PROPOSED FOR INCLUSION IN THE RHS LIST

The present list of Raisers and Stockholders appearing in the RHS Classified List and International Register of Daffodil Names includes the name of only one American breeder, although the list of daffodil names contains the registrations of a number of American breeders. The RHS List includes not only those who are actively engaged in raising daffodils at the present time, but also those who have contributed to this work in the past. Since we have been informed that the recommendations of the ADS would be considered for future revision of the List, the Registration and Classification Committee has suggested that the list include the names of Grant E. Mitsch and Jan de Graaff and possibly Edwin C. Powell and Mrs. F. Stuart Foote. The later two were pioneer American breeders who have a number of varieties registered. Others may be added later, if their registrations continue.

RECLASSIFIED OR WRONGLY OR DOUBTFULLY CLASSIFIED VARIETIES

A careful, although not a complete, study of this subject has been made. A list has been compiled of such varieties as have come within our observation, which, by actual measurement and pressed specimens, are shown to be wrongly classified. Those which are of questionable classification have been added.

The list of varieties will be presented to the RHS Daffodil Committee, with the request that they reconsider the classification of certain varieties which are obviously misclassified. Our Commit-

tee suggests that correcting the classification of misclassified varieties would be greatly aided if the Classification Chairmen of daffodil shows would keep a record of varieties causing confusion at shows, and refer them to this Committee. (List available, if wanted.)

NOTICE TO PLANT ORIGINATORS AND INTRODUCERS

The attention of all plant originators and introducers is again called to the fact that the ADS has been designated national registration authority for daffodil names for the United States and adjacent areas. Our society is working in cooperation with the Royal Horticultural Society, the International Registration Authority, to secure both national and international registration of daffodil varieties raised by American breeders. Please write to Mrs. Walter Colquitt, 487 Albany, Shreveport, La., Registrar of the ADS, for registration blanks and any further information about registering your daffodil originations. Daffodil breeders, who have not already done so, are urged to register themselves.

The Registrar's report of new registrations for 1958-1959 appears elsewhere in the Yearbook.

The Chairman acknowledges with sincere appreciation the invaluable help of Mr. Willis H. Wheeler, Dr. John C. Wister, Dr. George H. M. Lawrence, Miss Gertrude Smith, Mrs. George D. Watrous, Jr., Dr. Helen Scorgie, and Mr. George S. Lee, Jr. We are indebted in our earlier formative days to our first President, Judge Carey E. Quinn, and to Mr. Frederic P. Lee for their constructive advice and encouragement.

1959 Registrations American Daffodil Society

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

Registrants and Their Registrations

Fay, Orville, 1775 Pfsingsten Road, Northbrook, Ill.

Band of Gold, Spring Hills

Fowlds, M., Rt. 3, Box 332B, Canby, Oregon

Pixie

Mitsch, Grant, Canby, Oregon

Allurement, Alpine, Chickadee, Coral Star, Daydream, Early Sunrise, Jubilation, Kinglet, Le Cygne, Leonaine, Oratorio, Redstart

1959 Registrations

- Allurement (Mitsch). 2*b*; 17"; Early. Perianth, white; Corona, salmon. Glenshane × Mabel Taylor. Daffodil Haven 1959. 6-10-59
- Alpine (Mitsch). 7*a*; 14"; Midseason. Perianth, white; Corona, white. St. Mary × *N. jonquilla simplex*. 6-10-59.
- Band of Gold (Fay). 3*b*; Midseason. Perianth, white; Corona, greenish fading to white, gold rim. Green Island × self. 3-5-59
- Chickadee (Mitsch). 6*a*; 10"; Early Midseason. Perianth, yellow; Corona, orange. Rubra × *N. cyclamineus*. 6-10-59
- Coral Star (Mitsch). 2*b*; 18"; Late Midseason. Perianth, white; Corona, rose-red. Mabel Taylor × Interim. 6-10-59
- Daydream (Mitsch). 2*d*; 17"; Midseason. Perianth, chartreuse; Corona, chartreuse fading to white. Binkie × Seedling #K43. 6-10-59
- Early Sunrise (Mitsch). 2*a*; 24"; Extra Early. Perianth, yellow; Corona, orange. John Evelyn × Fortune. 6-10-59
- Jubilation (Mitsch). 2*b*; 21"; Early Midseason. Perianth, white; Corona, lemon turning to rich buff. Linn × Green Island. Daffodil Haven 1959. 6-10-59
- Kinglet (Mitsch). 7*b*; 16" Midseason. Perianth, yellow; Corona, red. Narvik × *N. jonquilla simplex*. 6-10-59
- Le Cygne (Mitsch). 1*c*; 14"; Early Midseason. Perianth, white; Corona, white. Cantatrice × Fairy Dream. 6-10-59
- Leonaine (Mitsch). 2*b*; 15"; Midseason. Perianth, white; Corona, lavender-pink. Green Island × Seedling #K12½. 6-10-59
- Oratorio (Mitsch). 2*b*; 24"; Early Midseason. Perianth, white; Corona, pale lemon, frilled. Polindra × Green Island. Daffodil Haven 1959. 6-10-59
- Pixie (Fowlds). 7*b*; 8"; Midseason. Perianth, yellow; Corona yellow. *N. juncifolius* × *N. jonquilla simplex* (?). Daffodil Haven 1959. 6-10-59.
- Redstart (Mitsch). 3*b*; 17"; Late Midseason. Perianth, white; Corona, ivory, coral-red rim; green eye. Rubra × Sylvia O'Neill. Daffodil Haven 1959. 6-10-59
- Spring Hills (Fay). 1*a*; Early. Golden yellow self. Milanion × Kingscourt. 3-5-59

The 1959 American Daffodil Symposium

HARRY I. TUGGLE, JR., Martinsville, Virginia
Chairman, Symposium Committee

IN spite of a widespread hard winter and trying weather during flowering season, we have received many fine reports on daffodil stamina and performance. In presenting our fifth annual symposium, representing reports from 29 states, it should be stated that the results do not necessarily reflect popularity. We believe that we have obtained a considered judgment of merit based on the experience of critical, experienced reporters who have been selected from our membership.

Perhaps the most appealing feature of the daffodil — its season of bloom — is also the factor that makes it difficult to ascertain country wide reliability. A daffodil variety that thrives in Louisiana may or may not do so in Pennsylvania, Idaho, or California. We have weighed the reports from different regions and hope that the net results will be of value in varietal selection. However, it should be stressed that the ultimate test remains how a particular variety performs in your garden.

Under twenty-one items, following closely the classification of the Royal Horticultural Society, London, England, daffodil varieties have been divided into three categories:

EXHIBITION: Daffodils of show calibre, exhibiting quality in form, substance, texture, color, pose, and stem. No price limit was imposed. Evidencing the expanding interest in the evaluation of novelties, a number of higher priced daffodils are beginning to make their appearance in this category.

GARDEN DECORATION: Daffodils valued for landscape effect, and in general priced at under \$5.00 per dozen. These should be healthy, vigorous growers requiring neither frequent division nor special attention. Also included are a few of a very desirable type; those that are valued for both garden decoration and exhibition.

NOVELTY: A recognized term meaning "new." These daffodils have been on the market for only a few years, are not generally distributed, or in some cases may not have yet been introduced. In this group should be found the leading exhibition or garden types of future years. According to the law of supply and demand, novelty daffodils are normally expensive.

The number given in parenthesis after the daffodil name represents that variety's position in the 1958 Symposium, e.g., under Item No. 1, Ulster Prince is rated second for exhibition this year; it was in fourth place last season.

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

Exhibition:

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

Garden Decoration:

1. Mulatto (1)
2. Garron (3)
3. Diotima
4. Unsurpassable (2)
5. Grapefriut (4)
6. Lord Wellington

Comment: Kingscourt's lead is impressive even though faulted by many reporters as being weak or short stemmed. A superior garden plant as well as show flower, Ulster Prince has made a rapid climb. Results for garden decoration are rather inconclusive. Over sixty varieties were named, and the six that placed received a small vote. Apparently this type is widely variable in garden performance.

Novelty: As soon as more widely grown, Slieveboy, an improved, reliable, vigorous Royalist type, will offer Kingscourt strong competition. Arctic Gold is difficult to surpass for precision of form and rich gold color. King's Ransom and Royal Oak are impeccably modeled, medium sized flowers, King's Ransom being a rich *maximus* gold. Richardson's new Golden Rapture, the best flower in the 1959 London show, is an estimable flower on a grand scale. Beltany, Burnished Gold, Donore, and Mahee are valued for blooming after most 1a's are past. Inver, Lemon Meringue, Luna Moth, and early Moonmist are of the attractive lemonade tint that is so popular. Warnaar's new Royal Gold is reported to be early, large, and well balanced, and Mitsch's new Alchemy to be smooth and of distinctive character.

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

Exhibition:

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

Garden Decoration:

1. Effective (2)
2. Trousseau
3. President LeBrun (1)
4. Music Hall (3)
5. Content (5)
6. Foresight (4)

Comment: Preamble regains first position verifying that it is hard to beat when in good form. Frolic and Lapford were also praised as novelties. Trousseau surely deserves its new, high rating for garden decoration.

Novelty: In comparison with other trumpet types, the bicolors have shown weak activity. To date there is no outstanding 1b with the sharp contrast of Effective. Ballygarvey has the contrast but stem is reported to be short. Tudor King has not lived up to expectation. Newcastle (Dunlop) and Coulmony (Brodie Gardens) should be tested. There is no other bicolor trumpet that has the fine stem or impressive size of a well grown Bonnington.

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

Exhibition:

1. Cantatrice (1)
2. Broughshane (3)
3. Vigil (5)
4. Beersheba (2)
5. Coolin
6. Mount Hood (4)

Garden Decoration:

1. Beersheba (1)
2. Mount Hood (2)
3. Mrs. E. H. Krelage (3)
4. Roxane
5. Broughshane
6. Samite

Comment: Cantatrice when well grown remains outstanding for exhibition. Vigil is the 1c to watch. It is a sparkling white of good form that makes a healthy, strong plant. On the market for a number of years, Coolin is staging a comeback. It has won several best-in-show awards recently.

Novelty: Stately Empress of Ireland remains the most discussed and desired new white trumpet. Rashee is a medium sized flower whose refinement and polish leave little to be desired. White Prince is considered by some reporters to be the finest 1c. More traditional in form than Empress of Ireland, it is smoother tex-

tured. Glenshesk is a large handsome flower, but is neither as white nor as prolific as its sister Vigil. Glacier is reported to be Richardson's finest 1c but to be lacking in stem. White Prospect is perhaps the finest of the bolder Ajax type, but Mt. Jefferson is also favored. White Tartar is a husky Broughshane type.

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

Exhibition:

1. Spellbinder
2. Lunar Sea
3. Nampa
4. Entrancement

Garden Decoration:

1. Spellbinder

Comment: Grant Mitsch's trio (Lunar Sea, Entrancement and Nampa) to quote one reporter "has cornered the market!" Lunar Sea received over a dozen first place votes, and by experts is considered to be the smoothest exhibition 1d. Entrancement and Nampa are deeper colored. It is difficult to obtain smooth blooms of Spellbinder, but when more plentiful it should prove to be one of the greatest garden daffodils of all time. Tintoretto is a 1a that develops a pink flush on trumpet interior that fades out to white in some climates. In fact, many of the sulfury lemon or lime tinted 1a's bleach out to reverse coloring in strong sun.

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

Exhibition:

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

Garden Decoration:

1. Carlton (1)
2. St. Egwin (2)
3. Crocus (3)
4. Adventure (4)
5. Havelock
6. St. Issey

Comment: Galway received the highest score of any variety in the Symposium, and Carlton is decidedly the first choice for garden. St. Keverne can be depended upon to come smooth without fail. Reports on Golden Torch are variable. St. Issey finally makes a deserved debut for garden decoration. It has a strong, tall stem, clear gold color with green base, superb substance and form, and a top-notch bulb. It should be more widely grown.

Novelty: Long lasting Cibola is ideal for garden decoration. Lemnos is an attractive lemon (not of the sulfury or reverse type)

of fine quality. Ormeau should be given a trial. We need some new blood in this group — especially varieties that are not trumpet in character.

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

Exhibition:

1. Ceylon (1)
2. Narvik (2)
3. Armada (4)
4. Dunkeld (3)
5. Revelry
6. Foxhunter

Garden Decoration:

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

Comment: Ceylon was aptly described as "the plant and the class!" Aside from best show form, Ceylon when more plentiful should prove to be an ideal garden subject — good, strong stem, superior pose, and not just sunproof but virtually weatherproof. Revelry has finally received the recognition it merits.

Novelty: There have been some advanced improvements in red cups recently. Paricutin may appear to be lacking in balance to some judges, but it is the most brilliantly colored and heavily subtanced yellow-red on the market. It has a magnetic attraction in the garden. Court Martial (large, ideally modeled, and sunfact) is one of the finest new ones from Richardson. With its large, ironed flat perianth, Air Marshall is almost 3a in appearance. Vulcan, Border Chief, and Field Marshall are other excellent, recent Richardson introductions. Masai King multiplies so rapidly it is difficult to obtain good blooms. Home Fires is tall and early and has a fiery red cup. Worthy of trial are Kindled (late, with copperish perianth), Madeira (early), Balalaika and Ringmaster (both with red-rimmed cups).

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

Exhibition:

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

Garden Decoration:

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

Comment: Well groomed Festivity is rated second only to Green Island, both being musts in any collection. Coverack Perfection's weak stem contributes to its lower rank. It would be difficult to find two better varieties for garden use than Brunswick or Polindra.

Novelty: Deodora is a large, patrician flower of good pose on a stout stem. Its flat ivory cup is widely banded lemon, backed by a starched, overlapping perianth. Madrigal is heavily substantiated and has a frilled flat crown. Almost white (borderline to 2c), My Love might be said to have "class." Promising reports were received on Mrs. Goethe Link's Towhee.

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

Exhibition:

1. Kilworth (2)
2. Fermoy (1)
3. Arbar (3)
4. Bunrana (6)
5. Daviot (4)
6. Blarney's Daughter

Garden Decoration:

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

Comment: In favorable seasons Kilworth's red cup is dazzling. Arbar has nearly every good feature except that its cup is more nearly orange than red. Bunrana, Daviot, and Blarney's Daughter are in shades of orange or apricot. Selma Lagerlof might rate for exhibition if she had better substance. Kilworth and Flamenco are relatively sunproof; Dick Wellband burns.

Novelty: Pirate King has strong substance, good form and stem, but as yet has been only orange colored. Signal Light has not been a strong grower. Northern Light is reported to be a vigorous, improved Fermoy. Belisana is a striking garden type. The best features of Kilworth and Arbar are wrapped up in their offspring Avenger (1960 introduction?) which held its color in the southern sun. Carnival, from the same parentage, should be tested.

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

Exhibition:

1. Zero (1)
2. Ludlow (2)
3. Ave (4)
4. Truth (3)
5. Courage (5)
6. Easter Moon

White Spire (tie)

Garden Decoration:

1. Carnlough (2)
2. Niphotos (4)
3. Courage (5)
4. Truth
5. Jules Verne (1)
6. White Nile (3)

Comment: The white cup line-up is much the same, with cool, calm, and collected Zero still out front. Basal rot continues to plague many varieties in this group — especially in warmer areas. Easter Moon, also rated high as a novelty, is one of those rare delights in daffodils. It has distinction all its own — faultlessly chiseled form, substance and texture of finest marble, purest white with green lights in base of short, neat cup. White Spire resembles Chinese White expanded to large cup measurement, its only drawback being a long neck. Jules Verne has taken a tumble probably due to its not having a white cup in the first place (should be *2b*) and to its strong inclination to basal rot.

Novelty: Easter Moon is the most impeccable of all the newcomers. Ardbane (runner-up for best bloom in 1959 London show) is an ice white with green glints that has superb form. Early Mist and Knowehead, both with trumpet-like cups, are notable advances. Castle of Mey is an improved Slemish type that opens pure white. Wedding Bell is most appealing with its bell-like cup and smooth perianth. Olivet, Pigeon, Cloneen, and Dew Pond were praised. Glendermott, considered by several English experts to be Guy Wilson's finest *2c*, has not been tested as yet. Snowline is a stand-out garden flower.

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

Comment: Binkie now has some strong show competition, but it will remain outstanding for garden use. Neatly formed, and larger than Binkie, Bethany has a smooth, precisely formed flower with reverse coloration that is more contrasting. Cocktail, still un-introduced, is perhaps the largest example of this class. Nazareth, Lemon Doric, Handcross, and Mitsch P5/6 (plus some new entries from New Zealand) are entering the race.

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

Exhibition:

1. Chungking (1)
 2. Ardour (2)
 3. Therm (3)
 4. Apricot Distinction (4)
 5. Jezebel
 6. Ballysillan
- Market Merry (tie)

Garden Decoration:

1. Market Merry (1)
 2. Chungking (4)
 3. Edward Buxton (2)
 4. Mangosteen (3)
 5. Apricot Distinction (5)
 6. Therm
- Dinkie (tie)

Comment: With all the hybridizing of yellow-reds it is difficult to understand why a good, sunproof 3a has not shown up! Except for Dinkie none of those listed here are sunproof. Ardour is smoother than Chungking; both burn. Therm and Ballysillan are smaller, color jewels; however, they fade. Jezebel has a perianth of bronzy coloration in favorable weather, but it often recalls Chungking's "permanent wave."

Novelty: Doubtful has thus far not been outstanding. Perimeter has not been tested.

ITEM No. 12. Small Cup, White perianth, colored cup. (RHS Subdivision 3b)

Exhibition:

1. Blarney (1)
2. Limerick (2)
3. Mahmoud (3)
4. Matapan
5. Bravura (4)
6. St. Louis (5)

Garden Decoration:

1. Limerick (1)
2. Blarney (5)
3. Lady Kesteven (2)
4. Kansas (3)
5. Forfar (4)
6. St. Louis

Comment: Blarney with its salmon-orange button-crown retains a substantial lead. Limerick is doubly valuable for its bright red cup is sunproof. Matapan has the purest white perianth of any red-cup 3b on the market.

Novelty: To be introduced soon, the paragon of this class is Rockall. It has a waxen smooth, flat perianth and cup of pure, ravishing red. Clockface (large) and Corncrake are valued for late bloom. Snow Gem is large and vigorous, resembling a poet. Tulyar has not been very strong. Artist's Model has to be seen to be believed — its large flat cup (edges reflex back against perianth) is a luscious orange. Dragoman was admired in the Richardson display at Washington.

ITEM No. 13. Small Cup, White perianth, cup color not predominant. (RHS Sub-division 3b)

Exhibition:

1. Bithynia
2. Sylvia O'Neill
3. Coloratura
4. Galilee
5. Carnmoon
6. Fairy Tale

Garden Decoration:

1. Sylvia O'Neill
2. Dreamlight
3. Misty Moon
4. Angeline
5. Grey Lady
6. Lough Areema

Comment: This new item groups together those flowers which were formerly classified as small *leeds* along with the 3c's. Most

of them have cool coloring, or are nearly solid white except for a rim of color on cup edge. Glistening white except for an apricot rim on cup, Bithynia has captured this class almost overnight. Coloratura, another well formed flower from Mitsch, also scores high. Fairy Tale and velvety smooth Carnmoon are very worthwhile. Angeline is valued for early bloom but has a weak stem. Lough Areema with its green eye is a charming cut flower. Many reporters cited this class as one of the loveliest for cutting.

Novelty: Shantallow and Crepello would make outstanding 3c's except for having faint lemon frill on edge of cups; both have green eyes, Shantallow opening with almost a green cup. Others noted were Hamzali, Cadence, and Ballycastle. Air Castle is one of the most perfectly formed daffodils ever seen. It opens almost pure white in strong sun, but after a few days the perianth turns an odd greenish color which may or may not appeal.

ITEM No. 14. Small Cup, Self white. (RHS Sub-division 3 c)

Exhibition:

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

Garden Decoration:

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

Comment: Immaculate Chinese White received more than three times the vote of any other 3c. Bryher is faulted only for occasionally coming with upper petal cocked. Frigid is outstanding when the late season is favorable. Portrush, barely edged out by Hera, makes a fine garden plant.

Novelty: April Showers (Oregon Bulb Farms) is not distinguishable from Distingue. Millisle is an improved Portrush, and Dallas and Shagreen are Cushendall offspring. New ones awaiting trial are Engadine (Richardson) and Kincorth (Brodie Gardens).

ITEM No. 15. Double Flowers. (RHS Division 4)

Exhibition:

1. Swansdown (2)
2. Cheerfulness (1)
3. Golden Ducat
4. Camellia (3)
5. Double Event (4)
6. Yellow Cheerfulness (6)

Garden Decoration:

1. Cheerfulness (1)
2. Yellow Cheerfulness (2)
3. Daphne
4. Snowball (Shirley Temple)
5. Camellia (3)
6. Mary Copeland (5)

Comment: Doubles continue to cause disappointment in many gardens, depending to a great degree on the season. They grow well in the South but invariably blast and are consequently poor for garden use or naturalizing. An exception to this appears to be all of the Cheerfulness brood. Swansdown and Double Event are dependable show type doubles. Shirley Temple has been renamed Snowball. When once established it is difficult to resist the feminine wiles of Daphne.

Novelty: White Lion is reported to be doing well even in southern California where nearly all doubles fail to open properly. White Marvel is the most distinctive new one — a double sport of the *triandrus* hybrid Tresamble.

ITEM No. 16. *Triandrus* Hybrids. (RHS Division 5)

Exhibition:

1. Tresamble (2)
2. Silver Chimes (1)
3. Rippling Waters
4. Lemon Drops
5. Thalia (3)
6. Yellow Warbler

Garden Decoration:

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

Comment: These are the flower arranger's special delight. Tresamble barely edged out Silver Chimes which apparently does well in the North if handled properly. Actually Tresamble is more *triandrus* in character than Silver Chimes which more nearly resembles a *tazetta*. Lemon Drops, Yellow Warbler, and Stoke (all yellow) are gaining in favor.

Novelty: Especially holding promise as a garden subject and naturalizer, Forty-Niner is most mentioned. Thoughtful is another worthy yellow variety. Strong protest must be made against varieties such as Horn of Plenty and Sulphur Queen. They are gross and devoid of the grace and charm expected in this division.

ITEM No. 17. *Cyclamineus* Hybrids. (RHS Division 6)

Exhibition:

1. Charity May (1)
2. Dove Wings (4)
3. Beryl (2)
4. Peeping Tom (3)
5. Jenny (5)
6. none

Garden Decoration:

1. February Gold (1)
2. Beryl (2)
3. Peeping Tom (3)
4. March Sunshine (4)
5. Bartley (5)
6. Charity May

Comment: Voting for exhibition is such a five way race that there is no selection for sixth place. Charity May grows well and has outstanding show quality. Dove Wings and Jenny are not as vigorous, but they should be grown! Beryl scores high for garden use although its cup burns. Bartley and Peeping Tom have been reported as identical, but on close inspection Bartley will be found to be more finished. Peeping Tom is an amusing court jester type.

Novelty: Hardly anything on the market to mention. Mr. C. F. Coleman, who made such a great stride in this division with Jenny, Dove Wings, and Charity May, has developed some new "red-nosed" hybrids which sound intriguing.

ITEM No. 18. *Jonquilla* Hybrids. (RHS Division 7)

Exhibition:

1. Trevithian (1)
2. Cherie (2)
3. Golden Perfection (3)
4. Sweetness (6)
5. Tittle-Tattle
6. Lanarth (4)

Garden Decoration:

1. Trevithian (1)
2. Golden Perfection (2)
3. Lanarth (3)
4. Chérie (5)
5. Golden Sceptre (4)
6. Orange Queen

Comment: Trevithian is the standard on the show bench or in the garden. Newer Tittle-Tattle is valued for late bloom, and Chérie is worth growing even if its cup doesn't come pink every year.

Novelty: Susan Pearson is a 7*b* with dark orange cup, slower, but said to be better than Sweet Pepper. Golden Incense is durable and blooms as late as Frigid. Shah is a handsome 7*a* that would pass for a smooth 2*a* if its fragrance and scalloped cup didn't give it away. Other good ones from Wallace-Barr are 7*a*'s Hathor and Mountjoy, and 7*b*'s Nirvana (clustered white) and Ripple. Kasota, one of the late Edwin Powell's varieties, is said to deserve commercial distribution.

ITEM No. 19. *Tazetta* Hybrids. (RHS Division 8)

Exhibition:

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

Garden Decoration:

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

Comment: Tazettas are reported as thriving in hard winter climates such as Massachusetts and Indiana; apparently they are not as tender as some people believe. Geranium is the outstanding favorite. Poor old "Martha's" head hangs terribly. Chinita is an interesting sulfur color with red wire rim on cup..

Novelty: There has been little recent work or improvement of tazettas, except for a few promising new ones from Oregon Bulb Farms. Their Matador is outstanding!

ITEM No. 20. *Poeticus* Hybrids. (RHS Division 9)

Exhibition:

1. Cantabile (2)
2. Actaea (1)
3. Sea Green (3)
4. Smyrna (4)
5. Shanach
6. Dactyl

Garden Decoration:

1. Actaea (1)
2. Cantabile (2)
3. Smyrna (3)
4. Shanach
5. Red Rim (4)
6. Dactyl

Comment: Cantabile is the precious jewel of this class, a flower that stands up under the closest inspection. Actaea thrives with little or no care. An absolute requirement for poets, especially in warmer climates, is to find a favorable location and then to leave them alone. New roots may form almost immediately after blooming.

Novelty: Milan, large for a poet, and Felindre are both good and should be more widely tried.

ITEM No. 21. Pink Cups of any Division.

Exhibition

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

Garden Decoration:

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

Comment. There are a number of good pink-cupped daffodils as far as form is concerned, but climate remains the deciding factor as to color. Rose of Tralee has nice pink color that fades out to white. Rosario is good but doesn't hold up well in water. In favorable seasons Radiation has a lilac pink cup; every bloom is of show form. Rose Ribbon has stunning color — a combination of tomato red and pink — that stands out in the garden. It is smoother than Mabel

Taylor which is also a grand garden plant. Mrs. R. O. Backhouse can't be improved on for price or color in mass planting.

Novelty: There is quite a crowd of new, improved (in one way or another) varieties. Some of them are: Carita — a striking decorative with huge flat pink cup; Rima — full trumpet of salmon pink, perhaps Mitsch's best pink to date; Fintona — broad white perianth and cup of rosy pink; Flamingo — lovely pink color, in form an improved Rosario with better substance; Salmon Trout — superb perianth and form if cup doesn't get caught in petals, color variable; Chiffon — an improved Wild Rose with deep rose pink small crown; Rose Caprice — dependable deep color but balance may not appeal to the critical eye; Mrs. Oscar Ronalds — tall stemmed with bowl shaped pink cup; Roseworthy — not large, but perhaps the deepest rose-pink color yet seen, does not fade; Caro Nome — a *3b* with saucer-shaped cup that varies from solid pink to ivory with pink filigreed edge, depending on the season; Pink Isle — a stove pipe pale pink cup that holds color; Robertson No. 35 — a greatly improved Lisbreen type, voted best seedling seen at Philadelphia ADS meeting; Interlude — salmon pink cup, bulb inclined to split; Passionale (1959 introduction) and Debutante (1960-? introduction) will be reported on next year.

The 1959 American Miniature Daffodil Symposium

HELEN C. SCORGIE, Harvard, Massachusetts
Co-chairman, Symposium Committee

EACH year, some reports come in of lack of success in growing miniatures. Some mention is to be expected of individual clones, either locally or generally; this happens with the large daffodils also. All miniatures are condemned as difficult or impermanent. Yet the symposium reports attest to the fact that they are being grown felicitously under varying conditions throughout the country. Very little has been written so far on the culture of miniatures. Good drainage is important, and the rock garden is the simplest way to provide this. But more data needs to be collected on culture, both specifically and geographically.

A major difference between the miniatures and the tall garden daffodils is that the ancestors of the tall ones were in the main lowland plants, growing for the most part under conditions not too far removed from garden conditions. The miniature species, on the other hand, are found in varying locations, some of which are fairly moist. It is significant also that the tall daffodils are removed many generations from the wild stock from which they sprang. The modern daffodil with the emphasis on size, demands a richer diet than did its wild forebears — or, in fact, its garden ancestors. Those clones that could not take it have fallen by the wayside or retired. “Far from the madding crowd’s ignoble strife,” unnamed or renamed in quiet gardens.

The miniature hybrids most tractable in the garden are those with one parent a garden variety with a background of garden ancestors. These, as a rule, are 10-12 inches, broad-leaved and of sturdy growth. They are the best ones with which the neophyte may try his hand. Some in this group will be content in front of the tall ones in the border. Those miniatures resulting from the crossing of two species are very close to their wild state, even if the parents are nursery-grown. Many of these man-made daffodils are sterile, so that the smaller clones are likely to continue to be first generation crosses until a Falaise appears among them.

Finally, there are the species. Unlike the tall species, few of which are of garden interest, the small fry are as lovely as they are varied. But the novice should avoid them until he has gained some skill in dealing with miniatures. This is not that the species are more difficult than the hybrids. Species are not abundant at best and often are rare. Professional collectors are prone to gather in every last bulb, especially if the species is rare and therefore will bring him more profit. When they are gone, they cannot be replaced. A garden variety, on the other hand, is always expendable as the commercial grower will always keep a reserve.

An excellent way to grow miniatures is in pots. They make attractive window plants in the winter when they may be studied and hybridized at a time of greater leisure. In the spring, their usefulness is increased in a number of ways. An effort to obtain more information on this subject through the symposium failed as too few had experience with growing them in this way. But it is a matter that deserves attention.

The preferences of those growing miniatures who reported in this year's questionnaire are reported below.

ITEM NO. 1 Trumpet Species and Wild Hybrids

1. *N. pseudo-narcissus* subsp. *obvallaris* (*N. obvallaris*)
2. *N. asturiensis*
3. *N. minor*
4. *N. pseudo-narcissus* subsp. *moschatus*

These four ran a close race. A slight change might have placed any one of them in first place. There was some confusion as to the names *minor*, *nanus* and *pumilus*. This is not surprising. Considering the number of names each has gone under, one wonders why there is not more confusion. Probably, on consideration, there is. Most members are familiar with the names used in Gray's "Miniature Daffodils" and it may help to have the names as there used identified with the correct names according to Dr. Fernandes.

Old Name	Gray	Correct Name
<i>nanus</i>	<i>minor</i>	<i>minor</i>
<i>lobularis</i>	<i>nanus</i>	<i>minor</i> var. <i>conspicuus</i>
<i>minor</i>	<i>pumilus</i>	<i>minor</i> var. <i>pumilus</i>

ITEM NO. 2 Trumpet Garden Hybrids

1. Tanagra
2. Wee Bee
3. Bambi
- Little Beauty
- W. P. Milner

Tanagra and Wee Bee were close rivals for first place. The others were far behind and tied for third place. All were reported doing well in all areas.

ITEM NO. 3 *Bulbocodium* Species and Wild Hybrids

1. *N. bulbocodium* subsp. *vulgaris* var. *conspicuus*
2. *N. bulbocodium* subsp. *vulgaris* var. *citrinus*
3. *N. bulbocodium* var. *tenuifolius*
4. *N. bulbocodium* subsp. *romieuxii*

Bulbocodium conspicuus needs no push. It appeared in top place in lists from Connecticut to North Carolina and points between. There was no region from which it was not favorably re-

ported. *Citrinus* was often second place. *Romieuxii* does not flower well in all places. Here in Massachusetts it is usually winter-hardy but the flowers do not mature before they are injured by frost.

ITEM NO. 4 *Bulbocodium* Garden Hybrids

1. Nylon
2. Kenellis
3. Elfhorn

Nylon is the only one well-known in this group. It far overtopped the other two, although the number reporting it was limited. It and Elfhorn are not technically hybrids but crosses, being the product of two subspecies of the same species. Kenellis, on the other hand, is a true hybrid and could be listed as a *triandrus* which it more nearly resembles.

In a few years, there should be a considerable increase in the clones tabulated. From the crosses that produced Nylon four other forms, Jessamy, Muslin, Taffeta and Tarlatan are now available, and quite a few others have been registered.

Nylon appears above ground here early in November, and is blooming by the end of the month. It increases well but not excessively. In some places Elfhorn will bloom the first year, but after that splits excessively and does not bloom.

ITEM NO. 5 *Triandrus* Species and Wild Hybrids

1. *N. triandrus* var. *albus*
2. *N. triandrus* var. *loiseleurii* (also reported as *calanthinus*)
3. *N. triandrus* var. *aurantiacus*
N. triandrus var. *concolor*

The *triandrus* species are reputed difficult, although a considerable number reported success with them. They require perfect drainage. With me, none of the species are reliably hardy. They resent particularly an open fluctuating winter.

ITEM NO. 6. *Triandrus* Garden Hybrids

1. Hawera
2. April Tears
3. Frosty Morn
4. Dawn
Raindrop

The large number of garden hybrids in this group and their general popularity has resulted in a great scattering of the votes cast. With less choice the order might have been different, but all would have remained in top position. Nevertheless, many new or not so well known varieties are given high praise. In a few years they will be top contenders. Among these are Lemon Heart, Samba, Sennocke and Shrimp.

Dawn stands out in the group as taller than its fellows, though still within the upper limits for miniatures. It stands out even among the members of its own beautiful family in its loveliness. Mr. Jefferson-Brown writes of it "A breath of air sets the flowers shimmering like a host of rare butterflies." But I am puzzled as to why this *triandrus-poeticus* hybrid with its flat corona should not have been assigned in the Classified List to that no-man's-land, Div. 11.

The search of the hybridists in the pleasant field of the *triandrus* might well be turned to the discovery of a Falaise in this group, as *triandrus* hybrids are conspicuous for their sterility.

ITEM NO. 7 *Cyclamineus* Species

N. cyclamineus is the lone species in this group with no varieties. The hybrid Cyclataz was mentioned by a few for second place. Several report difficulty in keeping this species. Only one reporter, on the west coast, reports that it seeded for him. It would be interesting to know if others have it firmly established. Here in Massachusetts, it seems to withstand chilly blasts and deep freezes but frowns on parched ground. With Wisley as an example, it would seem that mottled shade and a summer mulch combined with good drainage should please it.

ITEM NO. 8 *Cyclamineus* Garden Hybrids

1. Beryl
2. February Gold
Cyclataz
4. Mite
Little Witch
Cornet

It was rather surprising to find the ancient Beryl far outstripping her younger sisters. Still more surprising was that only two mod-

erns, Mite and Cornet, made the grade. There was a lengthy list of smaller ones often given high rank by one or two. The feeling is inescapable that growers of miniatures are not using this fascinating group in sufficient variety. Where difficulty is experienced with them, try them in grass. In the rock garden, they enjoy the companionship of a low deciduous shrub and a not-too-rich soil.

ITEM NO. 9 *Jonquilla* Species and Wild Hybrids

1. *N. jonquilla*
2. *N. watieri*
3. *N. rupicola*
4. *N. juncifolius*

N. jonquilla has so many good points that one wonders which weighed the most with the reporters who placed it at the head of the list. Of prime importance with all miniatures is that they do well over a large area, and in this *jonquilla* excels. A reporter from Virginia mentions that his came from Louisiana; mine came from Arkansas. They are said to grow too tall in some places, but will be lower if the soil is not too rich. Here it has persisted for many years among low growing heathers. No doubt the intertwining evergreen branches of the heaths give it a bit of extra warmth in winter and discourage it from waking up too early in the spring. When the daffodil season is about over, these little reflections of the sun scent the air as they shine above the waves of fern-green leaves of the heathers. This group offers a number of new exciting species, some of which are highly placed by a few who grew them. Many are rare in nature but nursery-grown stock should become more plentiful in a few years.

ITEM NO. 10. *Jonquilla* Garden Hybrids

1. Kidling
2. Lintie
3. Bobbysoxer
4. Flomay
Sun Disc

Here Kidling won the race by a mile. Not only was it reported many more times than any other jonquil hybrid, but almost every time it headed the list. Kidling is the miniature that I always recommend to beginners for a first purchase. It does well in all

climates and is tops in quality. It is a good increaser, ironclad against cold and heat, of medium height, and makes an attractive bit of color in the rock garden. One of the last to bloom, it helps to lengthen the number of days of our daffodil enjoyment. Sun Disc is even later. It increases slowly with me but has been in my garden longer than any other miniature hybrid. It is so inconspicuous out of bloom that one forgets it is there until its tiny sun shines brightly. It should not be forgotten that the lovely April Tears has *N. jonquilla* for one parent and by its characteristics, might with equity have listed in Division 7.

ITEM NO. 11. *Tazetta* Species and Wild Hybrids

1. *N. tazetta* subsp. *lacticolor* f. *canaliculatus* (*N. canaliculatus*)
2. *N. odoratus*
3. *N. × intermedius compressus*
N. tazetta subsp. *panizzianus*

N. canaliculatus is the only one named with any frequency and with very few listings from colder parts. *N. odoratus* is mentioned a few times from warmer regions. I have been unable to find out its status. Gray says it is like *N. canaliculatus* except for its larger size. My guess is that it is *N. tazetta* subsp. *lacticolor*. *N. compressus* is said to be a form of the hybrid *N. × intermedius* but does not seem to be recognized botanically as such. It is not hardy in the north. *N. panizzianus* is related to the paper whites and probably equally tender.

ITEM NO. 12 *Tazetta* Garden Hybrids

1. Halingy
2. Shrew
Soleil d'Or
4. Cyclataz

North of Virginia, there are very few reports of satisfactory *tazetta* miniatures. Shrew is hardy in Connecticut but is definitely not in Massachusetts. Cyclataz and a small one known as Ruby but not in the Classified List, are reported hardy in the Indianapolis region.

ITEM NO. 13 *Poeticus* Species and Wild Hybrids

N. poeticus praecox and *N. poeticus recurvus* were both mentioned at times but would seem rather tall to be considered minia-

tures. *N. praecox* is botanically the type form of *N. poeticus*. *Recurvus* is botanically *N. poeticus* subsp. *poeticus* var. *recurvus*.

From the West Coast, *N. poeticus* subsp. *radiiflorus* is mentioned and this would fall within the miniature scale. This is said to be the last of all narcissus to bloom. This might well be challenged by *N. poeticus* subsp. *poeticus* var. *verbanensis* which put in a remarkable show here this last season, its first. When the mid-season for daffodils was just beginning to wane, it was noted that this poet had not put in an appearance and the bulb was cautiously dug up. This, incidentally, is unlike any other daffodil bulb that I know. It is small to medium in size, dark, and very firm and heavy. When removed at this season, it showed bright white knobs where the roots were just started, and no sign of growth upward. But the bulb had the firmness of a lump of lead when it was set back into the ground. Leaves and flower stalk appeared as the late daffodils began to bloom. The flower opened on the day that the last flower of Golden Incense folded up. The single flower lasted a week and might have lasted longer if the weather had been kind. It is a flower of much charm and I am awaiting its return next spring.

ITEM NO. 15 Miscellaneous Species and Wild Hybrids

The only species (if one excludes *N. bulbocodium*, considered under a separate heading) that belongs here is *N. hedraeanthus*. Note the correct spelling; you will find it incorrectly spelled in some catalogues. This is a newly-found little species, related to *N. bulbocodium*. It is successful in Connecticut.

ITEM NO. 16 Miscellaneous Garden Hybrids

1. Xit
2. Lady Bee
3. Angie
Picarillo

A number reported favorably on the darker ones but the four that had top score were all pale; two whites, a pink cup and a pale yellow. Although Xit heads the list, one reporter says that it will not last more than a short time with her. Picarillo has been available only a short time but is now becoming better known. In small daffodils as well as large ones, soft yellows are appealing. Lady Bee's long pink trumpet is uncommon among the miniatures.

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 Mrs. Vance Hearn, 319 West Main St.,
 Madison
 C. F. Houser, 4135 Beverly Drive,
 Toledo 14
 Merle C. Hummel, Box 441, West
 Unity

OHIO, continued

Mrs. Tyyni N. Hummel, West Uinty
Clair W. Johnson, 131 Harcourt Drive,
Akron 13
J. Lee Jones, 90 Sprague Road,
Berea
Paul Karnath, 8475 Adams Road,
Dayton 24
Mrs. John R. Kingsboro, 155 West
Main St., Shelby
Mrs. Eugene Kleiner, 8820 Old Indian
Hill Road, Cincinnati 43
(C) Wells Knierim, 31090 Providence
Road, Cleveland 24
Edward H. Lamoncha, 347 South Main
St., Columbiana
Mrs. William O. Land, 3 Denny Place,
Cincinnati 27
R. C. Lanning, 321 Brumfield Rd.,
Lancaster
Ernest Lannoy, 246 Newark Road,
Mt. Vernon
Mrs. Richard E. LeBlond, 4575 Willow
Hills Lane, Cincinnati 27
Mrs. Daisy Jones Leonard, 7344
Clovernook Drive, Cincinnati 31
Mrs. Morss Lippincott, 8775 Given
Road, Cincinnati 43
(S) Fred Loehr, 213 S. High St.,
Bellefontaine
Mrs. Neil Macneale, 327 Beech Ave.,
Wyoming, Cincinnati 15
Mrs. Wayland C. Marlow, Sr., 457
Granger St., Granville
(S) Mrs. Louis H. McCoy, R. F. D. 3,
Louisville
Miss Marie E. Mildren, 812 Phillips
St., Marietta
Mrs. John F. Montgomery, 950 Gran-
ville Rd., Newark
Mrs. Paul G. Muth, 9385 North Dixie
Drive, Dayton 14
(S) John L. Paolano, 6800 Cleveland-
Massilon Rd., Clinton
Mrs. William H. Pavey, Country Club
Road, Xenia
Mrs. Peter Pearson, Route 2, West
Salem
Mrs. James D. Peters, P. O. Box 441,
Bellenfontaine
Rhea G. Pfaff, Route 1, Box 239,
Wadsworth
Mrs. A. C. Pfeiffer, Route 2, Grafton
Mrs. Howard J. Piehler, 201 Carpenter
Road, Gahanna
Mrs. F. W. Purmont, Walnut Road,
Route 6, Van Wert
Fred Ramsthaler, 3494 Greenwich
Rd., Barberton
Mrs. George Reedy, 655 West Mary-
land Ave., Sebring
Prof. Victor H. Ries, 1241 Lincoln
Road, Columbus
Mrs. R. L. Ross, 112 Outlook Drive,
Tallmadge
Miss Emma L. Runte, 8210 Batavia
Pike, Cincinnati 44
Mrs. J. J. Schaberg, Green Springs
Louis E. Schirch, 5353 Stickney Ave.,
Toledo 12
Mrs. C. W. Schmalstig, 4371 Tam-O-
Shanter Way, Dayton 29
Mrs. Lida Sheets, 23 Marvin Avenue,
Shelby
Mrs. Herbert S. Shinkle, 3227 Old
Salem Road, Dayton 5
Mrs. Willaim H. Sloan, 1434 Herschel
Ave., Cincinnati 8

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Mrs. Paul Smyth, 1731 Kinney Ave.,
Mt. Healthy 31
Miss Carrie Steigner, 72 Marvin Ave.,
Akron 2
Mrs. Joseph H. Thompson, Bright-
wood, Metcalf Road, Rt. 3,
Willoughby
O. B. VanSickle, 265 Gordon Drive,
Road, Akron 2
Mrs. Frederick Wassmann, Winding
Hill Road, Bellaire
Mrs. Perry Watrous, 1026 Valdes Ave.,
Akron
Mrs. Harry Wilkie, 302 N. Main,
Bellbrook
(S) William H. Wood, Route 1, Box 0,
Rockbridge
Miss Florence Wooddell, 543 Fouse
Ave., Akron 10
Mrs. James L. Young, 665 N. Wood
Street, Logan

OKLAHOMA

Mrs. H. B. Atkinson, 410 Atkinson
Drive, Midwest City
Mrs. Don Baldwin, Anadarko
Mrs. F. E. Bartlett, 409 West Maple,
Enid
Mrs. C. A. Bilbo, 4547 South Gary St.,
Tulsa 5
Mrs. Felix Carroll, 625 South Flood
Ave., Norman
Mrs. Joseph P. Crawford, Rt. 1, Box
269, Oklahoma City 11
Mrs. John Daly, Chateau
Mrs. Howard Dolph, 1207 S. Indianap-
olis, Tulsa 12
Mrs. Paul W. Dunlop, 513 S. W. 50th
St., Oklahoma City 9
Mrs. Howard Estes, 2429 N. W. 36th
Terrace, Oklahoma City 12
Mrs. J. T. Foster, 3309 N. W. 21st St.,
Oklahoma City 7
Mrs. E. K. Frank, 3603 S. Yorktowne
Ave., Tulsa 5
Miss Eleanor Hill, 1577 E. 22nd St.,
Tulsa 14
Mrs. Richard Lloyd Jones Jr., 1754
East 30th St., Tulsa
Mrs. Gerald M. Kersten, 427 S. 73
East Ave., Tulsa
Mrs. Muryle Kitiuk, 713 S. W., 45th
Street, Oklahoma City 9
Mrs. Carl Lea, 2707 E. 26th St.,
Tulsa 14
Mrs. C. E. McCaughey, Route 10, Box
115, Oklahoma City
Mrs. C. J. McCoy, 1228 S. Pittsburg,
Tulsa 12
D. R. McKeithan, 1621 Osage,
Bartlesville
Mrs. Charles M. O'Brien, 1008
Brookside Drive, Norman
Mrs. J. L. Rader, 527 West
Eufaula St., Norman
Mrs. S. W. Reaves, 527 Chautauqua,
Norman
Mrs. E. G. Sawyers, 204 S. Scott St.,
Oklahoma City
Library, Tulsa Garden Center, 2415 S.
Peoria, Tulsa 14
Mrs. Paul Updegraff, 324 E. Emelyn,
Norman
Mrs. Russell W. Wilkerson, 3329 N.
W. 25th St., Oklahoma City 7
Mrs. J. E. Zenor, 2232 N. W. 28th St.,
Oklahoma City 7

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Mrs. Willis Cummings, Route 1, Canby
(S) Allen W. Davis, 3424 S. Hume Street, Portland 19
Jan de Graaff, Box 512, Gresham
M. Fowlds, Route 3, Box 332B, Canby
Mrs. Carl Engdahl, Box 758, Pendleton
Murray W. Evans, Route 1, Box 94, Corbett
Ray E. Mackenzie, 1504 S. E. Oxford Lane, Portland 22
(L) Grant E. Mitsch, Canby
Mrs. Grant E. Mitsch, Canby
Mrs. Harry O. Smith, Rt. 1, Box 226, Cave Junction
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Mrs. Joe W. Staffanson, 456 S. Roberts, Gresham

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Mrs. H. E. Anderson, 126 N. 4th Ave., Royersford
Walter B. Bailey, Box 36, Glen Willard
Mrs. Thomas G. Barton, 815 Castlefinn Lane, Bryn Mawr
Mrs. Joseph H. Bates, Paxton Hollow Road, Rt. 1, Media
Mrs. William W. Battles, 239 Chester Road, Devon
Mrs. Charles A. Bender, 1120 Lincoln Way East, Chambersburg
Miss Mary Benjamin, Box 147, Waverly
Mrs. W. Howard Benson, 234 Walnut St., Carlisle
Mrs. Norborne Berkeley, "Stonethrow," R. D. 3, Bethlehem
Mrs. James Cameron Blelock, 8144 Ridge Ave., Upper Roxborough, Philadelphia 28
Mrs. J. Gibson McIlvain Bunting, 610 Ballytore Rd., Wynnewood
Mrs. Ralph L. Campbell, 234 Prospect St., Brownsville
Mrs. Arthur R. Cannon, 209 St. Davids Court (Box 33) St. Davids
Mrs. Leo Caruthers, Route 2, Parkersburg
George Clark, W. Valley Green Road, Flourtown
Mrs. Paul M. Crider, 1106 Wilson Ave., Chambersburg
Mrs. William E. Culp, 639 Philadelphia Ave., Chambersburg
Fred Z. Deschamps, The Lindens, Forest Grove
Joe Deschamps, Forest Grove, Bucks County
Mrs. John F. Dolheimer, 703 Logan Parkway, Hollidaysburg
John G. Eddy, Paradise
Mrs. Thomas Everist, 117 S. Main St., Yardley, Bucks County
Carl W. Fenninger, 8304 Stenton Ave. Chestnut Hill, Philadelphia 18
Mrs. Adrian Ford, 10-12 Wilde Ave., Drexel Hill
Mrs. James B. Francis, Broughton Lane, Villa Nova

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Miss Mary S. Green, 922 Montgomery Ave., Bryn Mawr
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Mrs. Francis L. Harrigan, 441 Maplewood Rd., Springfield, Delaware Co.
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Miss Sophia R. Hassler, 554 East Liberty, Chambersburg
Mrs. John H. Hoffman, Hilaire Hill, Kennett Square
Mrs. Leo P. Hubbuch, Old Forge Road, Lima, Delaware Co.
Mrs. Edgar S. Hutton, R. 4, "Windrift," Chambersburg
Mrs. Sidney Keith, Church and Edann Rds., North Hills
Lt. Comdr. Henry M. Kieffer, Anders Road, Lansdale, R. D. 2
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Mrs. Nathan B. Sangree, 201 Lansdowne Ave., Wayne
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Mrs. J. Miller Shank, 21 Channig Ave., Malvern
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Mrs. Henry Shonk, 166 Vine Street, Plymouth
Mrs. Anne H. Shute, 749 North Easton Road, Doylestown
Miss Gertrude M. Smith, c/o John J. Tyler Arboretum, Forge and Painter Roads, Lima
Mrs. C. B. Spencer, Route 1, Downingtown
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Sven Van Zonneveld, R. D. 1, Collegeville
Mrs. Bennett Walker, 716 St. James Street, Pittsburgh 32
John L. Wharton, 1000 E. Northampton St., Wilkes-Barre
Mrs. Gale R. White, Sunset Road, Claysville 1
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Mrs. Zachary T. Wobensmith, Jamison, Bucks Co.
Mrs. Grahame Wood, Jr., Blossom Hill, Wawa
Harvard C. Wood, 418 Roslyn Lane, Wynnewood
Miss Harriet E. Worrell, 4001 Namaan's Creek Road, Ogden via Marcus Hook
Mrs. Merton S. Yerger, Jr., 301 William St., Downingtown

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Clemson College Library, Clemson
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Mrs. Francis Hart, 416 Summit Ave., Anderson
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Miss Elizabeth F. Johnson, 728 Milton Ave., Rock Hill
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Miss E. A. Kelley, 405 E. Main St., Bennettsville
Mrs. H. L. McColl, Sr., Bennettsville
Miss Katherine O. McLeskey, 101 Riggs Drive, Clemson
Charles Meehan, Box 123, Chesterfield
Mrs. W. T. Mikell Jr., 11 Saluda Trail, West Columbia
Mrs. W. W. Mikell, Chesnee
Mrs. George W. Plyer, 610 West Barr St., Lancaster
Mrs. S. D. Reid, Box 368, Chesnee
Ben M. Robertson, "Daff-O-Dale," Taylors
(C) Mrs. Ben M. Robertson, "Daff-O-Dale," Taylors
Mrs. J. H. Saylors, Box 92, Anderson
Mrs. L. D. Schley, Jackson Ave., Hampton
Mrs. C. T. Singletary, Scranton
Tom W. Taylor, 207 North Main St., Anderson
Wilson L. Teal, Chesterfield
F. W. Thode, 121 Ft. Rutledge Rd., Clemson
Dan P. Thompson, Jr., 108 Strode Circle, Clemson

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Mrs. Archibald Wilson Walker, 617 Woodland, Spartansburg
Mrs. L. C. Wannamaker, 407 Greene St., Cheraw
Mrs. F. M. Willard, 124 Ravenscroft, Union
Mrs. H. Taft Williams, Box 368, Chesnee

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Mrs. Sidney H. Acker, 2601 Essex Place, Nashville 12
Mrs. M. N. Adkisson, 6813 Charlotte Pike, Nashville 9
Mrs. W. F. Akin, Hermitage
Mrs. Cecil Rogan Allen, 424 Page Road, Nashville 5
Mrs. Fred Allen, 899 Van Leer Drive, Nashville 4
Mrs. William T. Allen, III, 2208 Tyne Blvd., Nashville
Henry Ambrose, Jr., Blackman Road, Nashville
Mrs. Harry Arnold, 1503 Beechwood Ave., Nashville
Mrs. A. M. Ashbaugh, 4614 Granny White Pike, Nashville 4
Mrs. H. H. Bailey, 4013 Crestridge Drive, Nashville
Mrs. H. O. Balls, 503 Bellemeade Bvd., Nashville 5
Mrs. William F. Barry, 5819 Hillsboro Road, Nashville
Mrs. John Bates, Valley Brook Road, Nashville 12
Mrs. C. C. Beerman, 6040 Robin Hill Rd., Nashville 9
Mrs. Walter M. Berry, 1215 Haynes Road, Memphis
Mrs. Edwin A. Bethel, 206 Morrison St., Lookout Mountain
Dr. John H. Beveridge, 6110 Dunham Springs Road, Nashville 5
Mrs. Douglas Binns, 1700 Woodmont Blvd., Nashville
Mrs. Wilda Jane Blackmore, Liberty Lane, Gallatin
Mrs. Edward Bland, Route 4, Mt. Juliet
Mrs. John S. Bransford, Brook Hollow Road, Nashville 5
Miss Laura Bratton, 625 Elm Avenue, Dyersburg
Mrs. Felix D. Bright, A 1 Sterling Court, Nashville 12
Mrs. G. Daniel Brooks, 113 Clarendon Ave., Nashville
Mrs. A. C. Bruner, 709 Forest Hills Blvd., Knoxville
Mrs. John C. Burch, 4414 Tyne Lane, Nashville 12
Mrs. B. F. Byrd, 3400 Granny White Road, Nashville
Mrs. Houston Caldwell, Ashland City
Sam Caldwell, Route 4, Holt Road, Nashville 11
Mrs. Carson Carlisle, 305 Jackson Blvd., Nashville
Mrs. Winefred G. Carson, Nashville Pike, P. O. Box 760, Gallatin
Mrs. Robert B. Cartwright, 1218 Goodloe Drive, Nashville 12

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Mrs. James A. Cayce, 313 Walnut Drive, Nashville
 Mrs. Robert S. Cheek, 411 Westview Ave., Nashville 5
 Mrs. Will T. Cheek, 712 Requirder Ave., Nashville 5
 J. O'Neil Clayton, 4401 Warner Place, Nashville 12
 Mrs. J. Howard Cochran, Daffodil Hill, Weber Road, Hermitage
 Mrs. H. F. Colton, 3418 Love Circle, Nashville
 Mrs. E. T. Condon, 2126 University Circle, Memphis 12
 Mrs. A. H. Council, 534 Rosedale Ave., Nashville 11
 Mrs. A. Vonley Cox, 3610 Redding Road, Chattanooga
 Robert A. Crenshaw, 5312 E. Angela, Memphis 17
 Mrs. Lipscomb Davis, 929 Tyne Blvd., Nashville 5
 O. Jennings Davis, 924 Caldwell Lane, Nashville 4
 Judge Richard P. Dews, 4304 Brush Hill Road, Nashville
 Mrs. William Curd Dodson, Dodson Chapel Road, Hermitage, P. O. Box 35
 Mrs. Claude V. Dorris, 607 Crestview Drive, Springfield
 Mrs. Geddes Douglas, 3902 Hillsboro Rd., Nashville
 Mrs. Lee Douglas, 417 West Tyne Drive, Nashville 5
 Mrs. R. Denton Duke, Applelake, Cloverland Drive, Brentwood
 Mrs. Carl G. Dury, 1706 Graybar Line, Nashville 12
 R. D. Eadie, Sunnyside Drive, Nashville
 Mrs. W. Jeter Eason, 150 Goodwyn Memphis 11
 Mrs. Paul J. Ellis, 2724 Wortham Drive, Nashville 11
 Mrs. S. L. Erwin, 436 North Perkins Road, Memphis 17
 Mrs. J. Lee Farringer, Berry's Chapel Road, Franklin
 C. W. Flowers, P. O. Box 2621, Memphis
 Mrs. Webb Follin, Jr., 715 Greely Drive, Nashville
 Mrs. James S. Frazer, 1908 Tyne Blvd., Nashville
 Mrs. C. C. Forehand, 6308 Harding Road, Nashville 5
 Mrs. Rufus E. Fort, Sr., Royal Oaks House, 4505 Harding Rd., Nashville
 Rufus E. Fort, Jr., 116 Jackson Blvd., Nashville 5
 Mrs. Rufus E. Fort, Jr., 116 Jackson Blvd., Nashville
 Mrs. E. R. Fox, 1663 Glenview Ave., Memphis 6
 Mrs. James S. Frazer, 1908 Tyne Blvd., Nashville
 Dr. Charles E. Gardner, 4606 Charlotte Ave., Nashville 9
 Mrs. McPheeters Glasgow, 611 Bowling Ave., Nashville 5
 (S) Mrs. C. M. Gooch, 123 East Parkway North, Memphis 4
 Mrs. Robert L. Goodpasture, 6240 Hillsboro Road, Nashville 12
 Mrs. W. L. Granbery, 25 Darden Place, Nashville
 Mrs. Edgar Green, Lewisburg

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Mrs. L. A. Green, Sr., Gallatin
 Mrs. Harry R. Griffith, 835 Battlefield Drive, Nashville 4
 Mrs. E. T. Harrel, 374 Ellsworth, Memphis 11
 Mrs. Richard Harwood, 5910 Fairwood Lane, Memphis 42
 Mrs. Charles F. Hatcher, Hatcher Lane, Columbia
 Mrs. Cale P. Haun, 211 Deer Park Drive, Nashville 5
 Mrs. Harold Hayes, 4019 Towanda Trail, Knoxville 19
 Mrs. Richard M. Hayes, 404 Bell St., Smithsville
 J. R. Hendricks, 403 Cummins St., Franklin
 Mrs. A. G. Hennon, 3488 Graves Road, Memphis 16
 Bowers E. Hickman, 2188 South Parkway East, Memphis
 Mrs. Vivian G. Hill, 1408 Lakeland Drive, Knoxville 19
 Mrs. William F. Hobby, 917 Gendale Lane, Nashville 4
 Mrs. B. B. Houston, 3713 Meadowbrook, Nashville
 Mrs. R. L. Hovis, 475 N. Perkins Rd., Memphis 17
 Mrs. David S. Huggins, 939 Robertson Academy Road, Nashville 4
 Mrs. Robert J. Ingersoll, 1220 Goodloe Drive, Nashville 12
 Mrs. Carroll Johnson, Lock 4 Road, Gallatin
 Mrs. William R. Johnson, 2104 Lebanon Road, Nashville 10
 Mrs. Richard H. Jones, 500 Bowling Ave., Apt. 2D, Nashville 5
 Hodgson W. Keim, 2801 Columbine Place, Nashville
 Mrs. Richard H. Jones, 500 Bowling Ave., D. 2, Nashville 5
 Mrs. W. G. Kennon, 780 Norwood Drive, Nashville 4
 Mrs. Philip Kerrigan, 1800 Chickering Road, Nashville
 Gene Kittrell, Westview Ave., Nashville
 Mrs. Roland D. Lamb, 411 Westview Drive, Nashville 5
 Phil M. Lee, 6415 Bresslyn Road, Nashville 5
 Donald M. Linton, 1950 Chickering Rd., Nashville 12
 Mrs. Donald M. Linton, 1950 Chickering Rd., Nashville 12
 Mrs. Sam Linton, Jr., Belfast Avenue, Lewisburg
 Mrs. H. L. Macon, 3425 Timberlake Rd., S. W., Knoxville 20
 Mrs. Dan Maddox, 1228 Chickering Road, Nashville
 S. Duncan Major, 1041 Overton Lea Rd., Nashville 4
 (S) Mrs. Freda C. McDermott, Care of The Garden Gate, 5109 Harding Road, Nashville
 Mrs. Lawrence W. Medlin, 799 Elysian Field Rd., Nashville
 Mrs. James Metcalf, Westview Avenue, Nashville
 Mrs. W. C. Moncrief, Sr., 419 South Main St., Goodlettsville
 Mrs. Lewis G. Moore, 3311 Hobbs Road, Nashville 12
 (S) Mrs. Turner G. Morehead, 3610 Spottswood, Memphis

TENNESSEE, continued

Mrs. Robertson G. Morrow, 319 Goodwyn, Memphis 17
 Mrs. Shade Murray, 115 Jackson Blvd., Nashville
 Mrs. Will Murrey, Valley Farm, Lewisburg
 Mrs. J. W. Napier, 6806 Charlotte Road, Nashville
 N. J. Nesbitt, 2636 Juneway Drive, Memphis
 Mrs. Harry G. Nichol, 218 Leonard Street, Nashville 5
 J. L. Norton, Brentwood, Rt. 2
 Mrs. Robert M. O'Daniel, 3157 Court, Bartlett
 Mrs. Haggard Oldham, 1305 Harding Place, Nashville 5
 Mrs. Hiliary Osborn, 4421 Granny White Pike, Nashville 4
 Mrs. Fred Page, 245 Vaughns Gap Road, Nashville 5
 Mrs. Gowan Payne, 1710 Stokes Lane, Nashville 12
 Mrs. Louis M. Phillips, Stanford Drive, Nashville
 Mrs. Edward Potter, Jr., 850 Overton Lane, Nashville 4
 Mrs. J. W. Pritchett, 105 Woodmont Boulevard, Nashville 5
 Miss Mary B. Ratterman, 201 Peabody Manor, Nashville
 Mrs. B. E. Reed, 6118 Elizabethan Drive, Nashville
 Mrs. Leo F. Reynolds, 4248 Auburn Rd., Memphis 16
 Mrs. Kitty T. Richards, 4300 Holston Hills Road, Knoxville 14
 Mrs. W. D. Richards, Jr., 4305 Harding Place, Nashville
 Mrs. Roy T. Risley, 2489 Raines Road, Memphis 18
 Mrs. Reuben Sawyer, 4887 Shady Grove Road, Memphis 17
 Horace W. Scott, 3600 Robin Road, Nashville
 Mrs. Julius Seeman, 1233 Nichol Lane, Nashville 5
 Mrs. C. F. Shepherd, 589 North Perkins Road, Memphis
 Mrs. Adolph Skinner, 212 Lynwood Terrace, Nashville 5
 William M. Smartt, 1608 Woodmont Blvd., Nashville
 Mrs. George Gould Smith, 508 West Spring Street, Lebanon
 Dr. Bertram E. Sproffkin, East Valley Road, Nashville 5
 Mrs. James A. Starkey, 1040 Battery Lane, Nashville
 Miss Helen Sterling, 418 Page Road, Nashville 5
 Mrs. L. B. Stevens, 1220 Chickering Road, Nashville 12
 Mrs. Roy B. Stewart, 1020 Battlefield Drive, Nashville
 Mrs. Joseph E. Swann, 213 N. Walnut, Springfield
 John Sweeney, Logans Center, Highway 100, Nashville
 Mrs. Joe H. Talbot, 6117 Bresslyn Road, Nashville 5
 Mrs. Alex W. Taylor, 4209 Lone Oak Road, Nashville
 Mrs. Stanley Teachout, Glencourt Apts., Nashville 5

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Mrs. Houston Thomas, 117 Taggart Ave., Nashville
 Mrs. T. Leigh Thompson, 1492 Clairmont Place, Nashville 12
 Mrs. Kirkland Todd, Golf Club Lane, Nashville
 Mrs. G. M. Trammell, Jr., 6116 Dunnam Spring Road, Nashville 5
 Mrs. L. C. Tune, 3519 West End Ave., Nashville
 Mrs. Hugh Van Deventer, Jr., 717 S. W. Kenesaw Ave., Knoxville 19
 Miss Eleanor Walker, Belcourt Apts., Nashville
 Mrs. Norma B. Walker, 119 West End, Centerville
 (S) Mrs. W. F. Wamser, 1121 Glenwood Road, Nashville
 Miss Mabel Ward, Otter Creek Rd., Brentwood
 Mrs. Maury Weisinger, 2700 Lambardy, Memyhis
 Mrs. William H. Wemyss, Jr., Darden Place, Nashville 5
 Mrs. N. A. Wenning, 311 West Tyne Boulevard, Nashville 5
 Mrs. W. W. Wilkerson, Jr., Curtis Wood Lane, Nashville 4
 Jesse E. Wills, 1201 Bellemeade Blvd., Nashville
 Mrs. Jesse E. Wills, 1201 Bellemeade Rd., Nashville
 Miss Arlene Ziegler, Otter Creek Road, Route 2, Brentwood

TEXAS

Mrs. C. E. Beavers, 6732 Fortune Road, Fort Worth 16
 Z. G. Benson, 221 Wichita Falls
 Mrs. Thomas J. Burke, 4115 Turtle Creek Blvd., Dallas 19
 Mrs. Margaret Scruggs Carruth, 3715 Turtle Creek Blvd., Dallas 19
 Mrs. John C. Coffey, 6129 Reiger, Dallas 14
 Mrs. R. O. Dobbins, 910 - 2nd Street, Roscoe
 Mrs. George DuBral, 3431 Lovers Lane, Dallas
 Mrs. Edwin P. Gaston, 2705 Avon St., Dallas 11
 (L) Mrs. Frank G. Harmon, 4001 Euclid Avenue, Dallas 5
 Mrs. Leonard Hurt, Rep. Marianne Scruggs G. C., 3917 Miiramar, Dallas 5
 Mrs. Arthur C. Nicholson, 6915 Tokalon Drive, Dallas 14
 Mrs. William D. Owen, 4665 Rheims Place, Dallas 5
 Mrs. H. B. Phillips, Box 925, Kermit
 Mrs. Travis Roberts, Arcata Gardens, Arp.
 Mrs. John R. Salois, 6322 Lakeshore Drive, Dallas 14
 Mrs. J. O. Smith, 6728 Avalon, Dallas 14
 Mrs. Francis Stanglin, 11072 Mandalay Drive, Dallas 28
 Mrs. Virginia C. Stewart, 2209 Moore, Abilene
 Dr. Dale V. Sweet, Dept. Floriculture A. & M. College of Texas, College Station
 Mrs. O. O. Thorton, P. O. Box 704, Trinity

UTAH

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Washington

VERMONT

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Northfield
Mrs. Harrison E. Pearce, Townshend
(S) Pierce Timmis, West Wardsboro
Mary Mattison van Schaik, Cavendish

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Mrs. R. LaRue Armstrong, Clear-
water Pk., Route 1, Covington
Mrs. J. Cartege Barker, 2019 Labor-
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Carroll M. Bass 1210 Windsor Avenue,
Richmond
Chandler Bates, Selden
Mrs. Chandler Bates, Selden
Mrs. Harry K. Benham, 220 Roszel
Road, Winchester
Mrs. O. R. Benson, White Stone
Mrs. S. A. Blackwell, Remo
Mrs. Howard B. Bloomer, Jr., Lorton
Rt. 1
Rudolph O. Bloomquist, 4652 South 3
Arlington 4
Mrs. Channing M. Bolton, 503 High-
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Mrs. Robert A. Bowman, Route 2,
Box 458, Boxwood, Remo
Mrs. George H. Box, Jr., 1203 Sam
Lion's Trail, Martinsville
Mrs. Clarence C. Bradley, Jr., 1517
N. Main St., Danville
Mrs. A. G. Brooks, 202 Portland
Place,, Richmond
Mrs. F. Allen Brown, Landsend,
Route 4, Box 306, Roanoke
Mrs. J. L. Cabaniss, 1632 Center Hill
Drive, S. W., Roanoke
Mrs. S. A. Carpenter, Jr., The Elms,
Orange
Miss Azeele Caruthers, Leesburg
Mrs. F. C. Christian, Barboursville
Mrs. John A. Clem, III, "Topside,"
Staunton
Mrs. G. Frank Clement, 2237 Brable-
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Mrs. Thomas B. Cochran, 507 N. View
Terrace, Alexandria
Mrs. Chesterman Constaine,
Gloucester
C. Richard Cross, "Ashover," 221
Henry Clay Road, Ashland
Charles W. Culpepper, 4435 Pershing
Drive, Arlington 3
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Box 310, Fairfax
Mrs. W. Fairlie Dabney, Gloucester
Mrs. Frank Daniel, Mayhurst Farm,
P. O. Box 138, Orange
Mrs. R. N. Darden, Jr., Box 116,
Newsoms
Richard N. Darden, Jr., Box 116
Newsoms
Mrs. Curtis Davis, 2124 Lennox Rd.,
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Mrs. E. Starke Farley, 8902 Bieryle
Rd., Richmond 29
Mrs. Hugh B. Flippen, Jr., 133 Hanover
St., Ashland
Mrs. W. Kent Ford, 118 First St.,
Clifton Forge
Mrs. H. L. Fowikes, South Hill
(S) Mrs. W. Wayt Gibbs, 40 Woodlee
Rd., Staunton
W. E. J. Gottshall, 227 E. Mason
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Mrs. Bruce Gunnell, Boxwood, 3831
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Mrs. J. S. Hardy, 504 Euclid Ave.,
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Mrs. H. W. Harris, 414 Franklin St.,
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Mrs. J. B. Harris, Sr., 2213 Ross Lane,
S. W., Roanoke
Mrs. W. H. Harris, 6500 Hull Street
Road, Richmond 24
Mrs. W. Wright Harrison, Daffodil
Test Chairman, Charlottesville G.
C., 5 Wood Lane, Farmington,
Charlottesville
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
Mrs. Selina L. Hopkins, Nuttall,
Gloucester Co.
Mrs. Wally K. Hopkins, 323 South
Fairfax St., Alexandria
Mrs. G. Lyle Hughes, Wicomico
Church
Mrs. N. Wescott Jacob, Onancock
Mrs. Stanhope S. Johnson, 2600 Link
Road, Lynchburg
Mrs. Arthur H. Jones, "Somerset"
Somerset Station
Mrs. Langhorne Jones, R. D. 2,
Chatham
Mrs. Lewis Jones, Urbanna
Mrs. Wm. Carpenter Jones, 4910
Evelyn Byrd Ave., Richmond 25
Mrs. Nathan H. Key, 1520 Terrace
Rd., Roanoke 15
Ainslie W. N. King, 5709 Marie's
Drive, Falls Church
Judge Dirk A. Kuyk, 2827 Wilton Road,
S. W., Roanoke
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. Henry D. Ludwig, 309 South
Payne St., Fairfax
Mrs. William Maiden, 101 Valley St.,
N. E., Abington

VIRGINIA, continued

Mrs. Forrest E. Mars, Marland Farm, The Plains
 Mrs. Richard C. Marshall, 1 Fort Drive, Belle Haven, Alexandria
 Mrs. James Bland Martin, Kittery Point, Gloucester
 Thomas F. Martin, 314 N. Center St., Ashland
 Mrs. Malcolm Matheson, Jr., "Ferry Point," Mount Vernon
 Mrs. Orville C. Matthews, "Ide Hour" Hot Springs
 Mrs. Archer D. Mayes, Stony Creek
 Mrs. H. B. McCormac, Macsfield, Winchester
 Mrs. John A. McDanald, 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. Harold R. Millman, Green Lea Farm, Crozet
 Mrs. S. Robert Mitchell, Rep. Hallowing Point G. C., Hallowing Point River Est., Lorton, Route 2
 Mrs. E. H. Moore, 2515 Willow Lawn St., S. W., Roanoke
 Mrs. William C. Moss, 58 Hillcrest Ave., Martinsville
 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. Martin A. Palmer, Quail Ridge, Rt. 2, Charlottesville
 (S) William G. Pannill, P. O. Box 31, Martinsville
 Mrs. D. H. Patterson-Knight, "Hidden Acres," Rt. 1, McLean
 Mrs. Lewis S. Pendleton, "Whitehall," Rt. 1, Cuckoo
 Mrs. W. J. Perry, 1500 Dogwood Rd., Staunton
 Henry MacRae Pinner, Box 155, Suffolk
 Mrs. Henry McRae Pinner, Box 155, Suffolk
 (C) Mrs. Theodore Pratt, "Little England," Bena
 (S) Mrs. Burton J. Ray, 808 Clay Street, Franklin
 Mrs. C. Lathrop Reed, Box 60, River Road, Richmond 29
 Mrs. John A. Ridley, Stony Creek
 Mrs. John P. Robinson, 930 South Saint Asaph St., Alexandria
 Miss Lois Robinson, 1500 Chesapeake Ave., Hampton
 Mrs. Paul E. Sackett, 2003 Link Road, Lynchburg

VIRGINIA, continued

Mrs. Ralph E. Sampson, 4622 N. 32nd St., 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. George Steedman, 2512 Oregon Ave., Roanoke
 Mrs. James A. Strong, Barboursville
 Mrs. Fred Swearingen, 3606 Boulevard, Colonial Heights
 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
 Mrs. James T. Tucker, 1312 Loch-Lomond Lane, Richmond 21
 (S) Harry I. Tuggle, Jr., 709 E. Indian Trail, Martinsville
 (C) 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 Mulberry St., Martinsville
 Gerald D. Waltz, Rt. 1, Box 150, Salem
 Mrs. James Warren, Jr., 17 Grace Street, Harrisonburg
 (S) 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. Larry L. Whitson, 3047 Tillman Rd., Norfolk 13
 Mrs. James C. Wilkinson, Hey Road, Richmond 24
 Mrs. Berkeley Williams, Jr., 264 Albe-marle Avenue, Richmond 26
 Miss Elma H. Williams, "Berry Hill," Orange
 Mrs. W. Clayton Williams, Jr., "Yattan," Orange
 Mrs. Fletcher D. Woodward, 1326 Rugby Road, Charlottesville
 Mrs. Lionel Wynne-Roberts, Brock Spring, R. R. 2, Ashland

WASHINGTON

Mrs. Richard Bradbury, 612 Grand Boulevard, Vancouver
 Robert F. Cheyney, Box A., Medical Lake
 C. J. Gould, Western Washington Experiment Station, Puyallup
 R. P. Loomis, Box 397, Bellingham
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 (L) Richard L. Nowadnick, Sec. Northwest Bulb Growers Asso., Skagit Valley Junior College, Mt. Vernon
 Mrs. W. D. Terry, 1531 Axion Road, Bellingham
 J. N. Wilbert, E-14705 Trent Ave., Trentwood 69

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. 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 Highway, Roland Park, Huntington
Mrs. R. H. Dollison, 727 Mt. Vernon Ave., Fairmont
Mrs. T. W. Dulaney, 56 South Kanawha St., Buckhannon
Mrs. H. E. Duncan, 3212 Brandon Road, Huntington 4
Mrs. J. A. Ewing, 104 Fairfax Drive, Huntington 5
Mrs. C. E. Fitzwater, 618 - 13th Ave., Huntington 1
Mrs. William H. Flanagan, 1225 West King St., Martinsburg
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. A. S. Lucas, 103 New Street, Shepherdstown
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. Leo Milligan, 707 Glendale Ave., South Charleston 3
Mrs. S. R. Morrow, 13 Poplar Ave., Wheeling
Mrs. C. H. Pike, 905 Overlook Way, South Charleston 3
Mrs. Gray Risen, 125 Ridgewood Road, Huntington
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 Hamilton Circle, Charleston 1
Mrs. Paige G. Westfall, Route 5, Parkersburg
Mrs. H. H. Williams, "Popodicon," Shepherdstown

WEST VIRGINIA, continued

Mrs. John R. Witt, 204 Oakdell Ave., Bluefield
Mrs. Blenna H. Young, 2110 E. Kanawha Blvd., Charleston 1

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AUSTRALIA

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F. E. Board, The Winnatts, Darley Dale, Derbyshire, England
Sampson Clay, Merlin, Clapton-in-Gordano, nr. Bristol, England
Alec Gray, Treswithian Daffodil Farm, Camborne, Cornwall, England
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