

*Jessie de Gray  
Sandy, Ore*

THE  
AMERICAN  
DAFFODIL  
YEAR BOOK

PUBLISHED BY  
American Daffodil Society, Inc.

The American Horticultural Society  
1935

# The American Horticultural Society

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*Lilian A. Guernsey*

*Trumpet Narcissus, Silvanite and Maryland*

# Preface

MRS. FRANCIS KING

One of the excitements of a visit to Holland in 1925 at the time of the great Flower Show at Heemstede, Haarlem, was this incident. Asked to write for a certain American bulb list some descriptions of some of the newer daffodils, some still under number, I was taken into an upper room in the warehouse and shown a staging of flowers for inspection. I sat down at once at the typewriter, the beautiful daffodils ranged before me on ascending steps. From a group of men in the doorway there came this question: "Before you begin to write we should be glad if you would point out to us what you consider the outstanding flower here." A comprehensive look along the rows of daffodils and almost at once I singled out a beautiful primrose trumpet of great size and fine texture, saying, "This is the one which, at first glance, I like best." Mr. S. A. DeGraaff immediately answered with a smile, "That is the one we had named for you."

How the cult of the daffodil grows in America! The Garden Club of Michigan in Detroit long ago adopted for its daffodil shows the Classification of The Royal Horticultural Society. In Ruxton, Maryland, was held in the spring of 1934 the charming show of the Garden Clubs of Maryland, including not only classes for the daffodil but others for the daffodil with other flowers. Some of these arrangements, incidentally, came as near to poetry as flowers can come. In Virginia shows are constantly being held under the stimulating eyes of such experts as Mrs. Floyd Harris and Miss Mary McD. Beirne, for the Garden Club of Virginia. Through the hearing of the ear, I know that Mrs. Davis' collection at Nashville and her knowledge of the daffodil are both pre-eminent; and Mr. Morrison has for years been growing and hybridizing, at too have been Mrs. Foote of Grand Rapids, Mr. Powell of Silver Springs, Mr. Mitchell and many others. Of the many shows in the Pacific Northwest there are still reports to be had. Throughout the country are these bright spots, as one may call them, spots lighted by this beautiful and varied flower. This light will surely penetrate and illumine sooner or later all those parts of the country suited to the daffodil.

It has always seemed to me that the most enthusiastic writing on a particular flower was that on the daffodil. Even the small lists sent out by English collectors and growers have a particularly stimulating quality. Daffodil Yearbooks of The Royal Horticultural Society are more exciting than novels, filled as they are not only with information but with bits of reminiscence relating to the daffodil that throw new light upon the individual flower. Who knows, for instance, the derivation of the English name, Angel's Tears, given by Peter Barr to *Narcissus triandrus*? The great names of Barr, Backhouse, Engleheart, Burbidge and later of the Williams, Crosfield, the Wilsons, Cranfield, Chapman and Richardson, to mention but a few, are inseparably connected with the daffodil. My own interest in the daffodil was first kindled by the Reverend Joseph Jacob and it is pleasant to remember in this connection his benignant countenance, his charm of manner, when we first met at the International Show at Haarlem in 1925. Also I well remem-

ber the amusement and interest with which I saw and heard Mr. Leake of Wisbech and the brothers Hoog at their famous Overveen nurseries in Haarlem. There passing from flower to flower, criticizing, praising, sometimes disagreeing in an agitatedly friendly manner, I went with them, never since having learned more in an hour of the comparative merits of seedling daffodils than in that time.

For myself I have now but few daffodils, some fine ones, Robert Sydenham, Bernardino, Dosoris; but in a spring border if overflowing with White Ladies, Mrs. Langtrys and here and there the ever-exquisite Mme. de Graaff. All these are well established, with flower stems of all heights according to the strength of the bulb. Such drifts of old daffodils, wild and woodsy-looking as they are, I thread through with other drifts of the purple tulip Valentine and, if I could, I should intermingle those with the single early tulip, Wouverman. Nothing in Spring beauty is more suitable than an association of these tulips, one early and one late, with the most precious flower that blows.

# To the Daffodil

RICHARDSON WRIGHT

Just as a roundly cultured man sustains his interest in several of the arts, finding himself equally at home in the spheres of books, music and painting, so does the thorough gardener pursue the delights afforded him by many kinds of flowers. Without this diversified interest his gardening becomes lop-sided; he is a single track gardener.

Nevertheless, it invariably happens that, sooner or later, the gardener chooses one or two out of the multitude of flowers to make the especial object of his attention. In this choice the season may be the dominant influence or, as is more often the case, the ease of growing.

It is obvious that in offering their allure certain flowers have the added advantage of a sympathetic season. June with its roses, iris and peonies and all the other thronging attractions is so crowded a season that the gardener is almost forced to choose a favorite. On the other hand, chrysanthemums, having little to compete with at the time, leave the final favorable glimpse of the garden. And the first pageant—bringing to the winter-wearied mind a clean, fresh felicity—is staged by the daffodils.

It is difficult to conceive of one not liking daffodils, and yet the evidences of such affection in this country have not been pronounced until within the past few years. Indeed, not until the Government placed them in the same class with forbidden fruit did Americans show them more than passing interest. A few discerning gardeners, always alert for what was going on in the Narcissus world of England, Ireland, Scotland, Holland and the hinterlands where wild species flourish, managed to maintain their exclusive enthusiasm. From them the enthusiasm has now spread to others. The daffodil has grown beyond the mere sentimental acceptance of a season and is assuming an important place in the interests of American gardeners everywhere.

Both the ease and simplicity of their cultivation and the presence in this country of stocks of the newer and better varieties are conspiring to make the daffodil an enormous favorite. The time has already come when a representative collection of daffodils in one's garden is proof of one's gardening taste and discernment. There are even patient souls here who are hybridizing daffodils—willing to wait the seven years required from seed to flower. The fruits of their labors we shall be enjoying in due time.

These marks of Daffodil advancement in the United States are the justification for the pamphlet you now hold in your hand. It is, I believe, the first of the kind to be issued here, and as such sets up a milestone in American gardening history. Both in that respect and also because of the inspiring merit of its various papers, it is worthy of a sympathetic reception and the flower it extols an honored place in every American garden.

In the best of my Burgundies I toast it—"The Daffodil, Queen of Spring!"



# Daffodil Shows for Garden Clubs

MARY J. AVERETT

The proper time to plan and announce a formal, public daffodil show is at least thirteen months before the date of the show. Schedules issued at the opening of the daffodil season will enable members to select varieties which they like from shows, exhibition gardens of growers, and the gardens of friends. The Show Committee can stage an impromptu show at a late April meeting of the club including a demonstration exhibit of the main classes in the schedule. By this show the Committee will learn what material is already on hand in the gardens of the members and will be able to advise members what to buy in order to increase its scope and variety. In June, and again in September, reminders can be sent out that orders should be placed and bulbs secured. A month before the date of the show final schedules could be sent out and entries could be required four or five days beforehand to facilitate precise staging arrangements.

To stage a show of a hundred entries would require twenty members, each of whom could enter five classes. Not many clubs can boast so many members with the same specialized interest. Garden Club interest centers on the uses of plants,—for garden and house decoration, for roadside and civic plantings, for beautification of parks and cottage developments,—and consequently tends toward diversification rather than specialization. Recognizing this fact, clubs unite for purposes of special plant shows. The Daffodil Show of Maryland is held by the Maryland Daffodil Society under the auspices of the Federated Garden Clubs of Maryland; the Virginia Show is sponsored by the Daffodil Committee of the Garden Club of Virginia, which is really an association of clubs. But every club, however small, can hold some type of Daffodil Show with profit to its members by presenting this genus and other garden material of the same blooming season. Too many gardens do not “come alive” until tulip time.

Most garden clubs meet in the homes of members. Many of them make a point of displaying plant material at every meeting, this display often taking form as a small show. Seals or ribbons are awarded for first, second, and third, and at the end of the year two prizes are given,—one to the member who has won the highest score of points, the other to the member who has made the greatest number of entries. Such practice extends the club's knowledge of plant material and stimulates a friendly rivalry in the growing of good specimens. An annual daffodil show could well take its place in such a scheme and by shifting its date from year to year could cover the whole daffodil season.

## IMPROMPTU SHOWS

Schedule should be sent out a week ahead with notice announcing the meeting.

All material should be grown out of doors by the exhibitor.

Each variety to be staged in separate container,—in uniform containers if the club owns such equipment. Moss may be used to hold stems in position, but nothing else. An untidy use of moss will disqualify the entry.

A member of the show committee should assist the exhibitor in placing entry, and once placed, IT SHOULD NOT BE TOUCHED. Exhibits are often ruined by being shifted from pillar to post by committee members intent upon picturesque display.

One person, either a daffodil specialist in the club or preferably from a neighbor club, should be adequate to judge specimens. Arrangements may be judged by voting, or another judge invited in. Rarely is it satisfactory to have the same judge for both.

Quality and not quantity should be the consistent aim. Demonstration exhibit. A daffodil specialist in the club sometimes stages such an exhibit. Or often a nearby dealer or amateur will be glad of the opportunity. If a formal public show is planned for the next year, this exhibit should present types of all specimen classes in the anticipated show. Such demonstrations cannot be staged too often because new recruits to the ranks of daffodil fans are always coming in. The Midland Daffodil Society has been holding shows for thirty-two years and it still prints the R. H. S. Classification in every schedule.

#### SCHEDULES FOR IMPROMPTU SHOWS

##### SCHEDULE I

- Class 1. Collection of 6 varieties, 1 stem each.
- Class 2. Collection of 3 varieties, 1 stem each.
- Class 3. Single variety, 1 stem.
- Class 4. Flowering shrubs, 3 varieties, 1 spray each, not over 18 inches in length.
- Class 5. Arrangement of daffodils with daffodil foliage.
- Class 6. Arrangement of spring flowers, daffodils predominating; not over 24 inches in width.

##### SCHEDULE II

Card table display. Two members may cooperate in one table if desired. Each table must contain:

Specimens.—3 varieties, 3 stems each.

Collection.—6 varieties, 1 stem each.

Arrangement of daffodils with or without other flowers.

The table must not appear crowded; each table is a miniature show with three classes.

##### SCHEDULE III

- Class 1. Single bloom, yellow, without red.
- Class 2. Single bloom, white other than poeticus.
- Class 3. Single bloom, yellow with red in cup.
- Class 4. Single bloom, white with red in cup, other than poeticus.
- Class 5. Single bloom, poeticus.
- Class 6. Arrangement in low bowl to suggest a clump of daffodils with evergreen shrub as background.

Class 7. Arrangement of one dozen daffodils with daffodil foliage.

Space Exhibit. Five running feet of table will be assigned to each exhibitor, who may use any covering, tiering, vases, bowls to stage a display of specimen daffodils. Each variety in separate container. No foliage but daffodil foliage. All flowers to be grown out of doors by exhibitor. Condition of material will count more than rarity of varieties; care and precision in staging will count more than pictorial quality; accurate, legible but unobtrusive labels are commended.

The purpose of such a show is (1) to acquaint the club with the daffodil population of the members' gardens; (2) to bring out ideas on and compare methods of staging specimens; (3) to afford practice in staging technique.

Decorating a House. The house where the meeting is to be held is visited. Its arrangements are not disturbed except as the meeting would necessitate. Places for decoration are selected: the mantelpiece, tops of book-cases, end tables, occasional tables, the dining room table, side board, hall console,—any number desired. Each of these places is assigned to a club member who decorates it with daffodils. Some of them may be arrangements, some specimens. A row of similar vases in line on a mantel or a book-case is decorative. Celia Thaxter used to use poppies in this way to her great delight.

#### DEMONSTRATION EXHIBIT

A large placard interpreting either by line drawings, pictures, or mounted flowers which have been dissected and pressed, the terms: perianth, perianth segment, petal, trumpet, crown, cup.

1. Trumpets. A yellow, a white, and a bi-color but with no emphasis upon their differences.
2. Incomparabilis. A self-yellow, a yellow with red, a white with yellow, a white with red.
3. Barrii. A self-yellow, a yellow with red, a white with yellow, a white with red.
4. Leedsii. A giant Leedsii, a short-crowned Leedsii, one with apricot or pink tint.
5. Poeticus.
6. Two or more flowers to a stem. A campernelle, a triandrus, a poetaz.

At a show comprising the above classes, further education could be accomplished by a demonstration exhibit of all the divisions and subdivisions of the R. H. S. classification, in so far as the season would permit.

#### FORMAL PUBLIC SHOWS

In a daffodil show, as in any other special plant show, specimen classes predominate, and rightly so. Such a show depends for its attractiveness as a spectacle not upon the picturesque but upon a kind of military beauty,—flowers like soldiers on parade. Such beauty derives from uniformity, orderliness, precision, regularity of spacing, and meticulous grooming. These qualities differentiate a parade from a mob; without them no specimen display can hope to be pleasing as a spectacle, no matter how rare the varieties nor how perfect the culture. There follows an outline of equipment and procedure to be set up as an ultimate goal; it is not the only method, nor does it claim

to be the best method; it is simply one method of arriving at pleasing results. Nor does it cover the whole of flower show technique; it deals merely with some parts of it particularly important in a daffodil show.

#### EQUIPMENT

**Tables:** An excellent discussion of tables is to be found in Mr. Mulford's pamphlet (*Literature 5*, pp. 15-17). Daffodils appear to better advantage on tiered tables with a background between the two sides when the table is to be used between two aisles. (Above reference, Fig. 7.) Against the wall this background would not be needed and the table would be half that shown in the figure. The nearer to the level of the eye the exhibits are brought, the more comfortable for visitors to the show.

**Covering:** Tables and background should be uniformly covered, both level surfaces and risers. Cheesecloth, unbleached muslin, sateen, even paper may be used. Unbleached muslin with black containers makes a striking picture. Black sateen is effective. Paper can be used only once, cloth indefinitely. It can be held in place smoothly and perfectly with pins and tacks.

**Taping:** When entries are required a week in advance the whole placing of exhibits can be plotted and space taped off for Section, Class, and Entry. An exhibitor's card would lead as definitely to a particular space as does the coupon of a theatre ticket lead to a particular reserved seat. Such a scheme requires more tape than is ordinarily used.

**Vases:** Uniform vases should be supplied and required for all specimen classes. Two different heights are often used. Opaque material is to be preferred to hide the moss used to hold stems in place. In shape one which has the same size at top and bottom but narrows to a slender waist is excellent; one which is small at bottom and widens regularly to the top is the most difficult.

**Labels:** Labels of uniform size, uniformly placed would be an improvement upon unregulated labels. Exhibitors could obtain them by request with their entry cards and write them at home. A card the size of a visiting card, punched with two holes an inch apart horizontally in the center of the card and with a string the color of the vases drawn through the holes with ends at back would serve nicely. When the flowers are in place the card could be tied face front to the waist of the vase.

#### PROCEDURE

Schedule announced a year ahead; distributed a month before date of show.

Entries required a week before date of show. Each exhibitor should be responsible for filling space assigned; may put in substitute if necessary; in case of last resort may buy or borrow flowers to make required entry, marking the entry card "Not for competition." The Garden Club of America and the Federated Garden Clubs of both New York and New Jersey make this requirement at the International Flower Show. It prevents both gaps and overcrowding. It is particularly reasonable with daffodils, as they will keep

in good condition for two weeks if cut as they begin to unfold and put in water in the ice box.

When the entries are all in the Staging Committee should figure the space required and plot the arrangement by Section, Class, and Entry. A diagram should be made and the day before the show the tables should be placed according to it, covered, and the spacing marked by tape. When equipment and space are small, schedules often limit classes to a definite number of entries. Instead of discouraging exhibitors, limitation frequently increases demand for space; it certainly makes easier the job of staging.

**Last Minute Class.** Such a class could be added to any schedule. See Schedule IV. Tables for these exhibits should be so placed that they do not mar the planned scheme for the regular classes. Often a small room may be given over to them.

**The Daffodil Specialist.** A daffodil show hardly occurs to a club unless at least one member has a special interest in the genus. This member could be appointed Daffodil Specialist. The Specialist should be familiar with the R. H. S. Classification; should have a desk at the entrance of the exhibition hall on which should be a copy of the latest Classified List of Daffodil Names (Lit. 1), a copy of the Schedule, and a number of catalogues of recognized daffodil specialists for the convenience of exhibitors. Questions should be brought to the desk, which the specialist should not leave. Exhibitors take full responsibility for labelling their specimens; the specialist decides all questions of classification, placing varieties not listed in the classes they most nearly resemble.

The exhibitor should place his exhibits, arrange his cards, have the entries checked and approved by a member of the Show Committee. After this they should not be touched. No fine is too heavy to exact as a penalty for violating this rule; no person sufficiently exalted to be exempt from it.

#### SOME RULES WITH COMMENT

1. All flowers must be grown out of doors by exhibitor.—The arrangement classes are usually excepted, but in that case the show does not present a true picture of the garden material of the season. Separate greenhouse classes could be provided for and the Staging Committee could segregate them.

2. Daffodils must be shown with daffodil foliage.—“Own foliage” is not required because cutting the foliage at blooming time seriously retards the development of the bulb the next season,—may even result in losing it. This would prevent the exhibition of rare and expensive flowers. Such inexpensive bulbs as Emperor, Autocrat, Glory of Lisse or Ornatus, and Rugulosus if grown in quantity would furnish four types of foliage. The foliage of the flower to be shown should be noted and foliage of its general type chosen.

3. Each variety must be staged in separate vase and label, face front, attached to the vase, not to the flower stem. This applies to all but arrangement classes.

#### SOME ADVICE TO EXHIBITORS

1. Choose well developed flowers. A daffodil sometimes takes several days to develop its typical form. Development may be retarded by cold,

quickened by heat. Know your own varieties and see to it that they are shown in typical, mature form.

2. Pose your blooms precisely and wedge moss in neck of vase to hold stems in place. Then see to it that no fragments of moss and no finger marks appear on the vase.

3. Never show a flower the texture of which has begun to turn thin and papery.

4. Never show a flower with a burned or faded cup.

5. Never use imperfect foliage.

6. Always pose the foliage to enhance the charm of the flower.

7. Be painstaking and hard to please about your set up.

#### SCHEDULE IV

##### *Schedule for a First Daffodil Show Based on Color*

- Class 1. Yellow perianth without red on cup, 3 varieties, 1 stem each.
- Class 2. Yellow perianth with red on cup, 1 variety, 3 stems.
- Class 3. One yellow flower with red on cup.
- Class 4. White or whitish flowers, 3 varieties, 1 stem each.
- Class 5. White perianth, yellow cup, without orange or red, one variety, 3 stems.
- Class 6. White perianth with red or orange on cup, exclusive of poeticus, 3 varieties, one stem each.
- Class 7. Poeticus, one variety, 3 stems.

##### *Arrangements*

- Class 8. Two or more varieties of daffodils, any number of stems, in upright vase.
- Class 9. In low bowl, to suggest daffodils and primroses growing at base of deciduous shrub.
- Class 10. Mille fleurs. For dining room table, of daffodils and other bulbous and herbaceous flowers. Space 24" x 24". List of material used to be attached to entry card. Judges must first select 1st, 2nd, and 3rd without regard to number of varieties used. Then add 25 points to the score of that one of these three which uses the greatest variety of material, and award ribbons according to the resulting score.

Last Minute Class. Any unusual, interesting, or worthy daffodils not previously entered may be entered the morning of the show. All such entries will be grouped by the staging committee and will be judged on their merits. Under no circumstances will they be placed in competition with the regular classes.

\* \* \* \*

The Editor suggests that classes 1 to 7 will be "difficult to judge dispassionately." The author admits the truth of this but includes the schedule because of its possible value to those more interested in garden effect than in daffodils.

## SCHEDULE V

*Schedule for a First Daffodil Show*

## Section A—Not open to those entering Section B

- Class 1. Trumpets (Divisions 1a, 1b, 1c), 3 varieties, 3 stems each.
- Class 2. Incomparabilis (Divisions 2a, 2b), 3 varieties, 3 stems each.
- Class 3. Barrii (Divisions 3a, 3b), 3 varieties, 3 stems each.
- Class 4. Leedsii (Divisions 4a, 4b), 3 varieties, 3 stems each.
- Class 5. Poeticus (Division 9), 3 varieties, 3 stems each.
- Class 6. Varieties having two or more flowers to a stem, one variety, 3 stems.
- Class 7. Collection of 6 varieties, 3 stems each.

## Section B—Not open to those entering Section A

- Class 8. One Trumpet (Division 1a, 1b, or 1c).
- Class 9. One Incomparabilis (Division 2a or 2b).
- Class 10. One Barrii (Division 3a or 3b).
- Class 11. One Leedsii (Division 4a or 4b).
- Class 12. One Poeticus (Division 9).
- Class 13. One stem having two or more flowers.
- Class 14. Collection of 3 varieties, one stem each.

## Section C—Other Spring Flowers

- Class 15. Flowering Shrubs, 3 varieties, 3 sprays each, not exceeding 18 inches in length.
- Class 16. Flowering Bulbs other than daffodils, 3 varieties, 3 stems each.
- Class 17. Perennials, biennials, hardy annuals, 3 varieties, 3 stems each.

## Section D—Arrangements

- Class 18. Daffodils with flowering trees or shrubs, any foliage, space 24" x 24".
- Class 19. Seven stems of daffodils with daffodil foliage.
- Class 20. 36 daffodils, two or more varieties, space 24" x 24".

## SCHEDULE VI

*Schedule of Classes for Daffodil Show*

## Section A—Exhibitors in Section A may not exhibit in Section B

- Class 1. Yellow Trumpets, Division 1a, 3 varieties, 3 stems each.
- Class 2. White Trumpets, Division 1b, 3 varieties, 3 stems each.
- Class 3. Bicolor Trumpets, Division 1c, 3 varieties, 3 stems each.
- Class 4. Yellow Incomparabilis, Division 2a, 3 varieties, 3 stems each.
- Class 5. Bicolor Incomparabilis, Division 2b, 3 varieties, 3 stems each.
- Class 6. Yellow Barrii, Division 3a, 3 varieties, 3 stems each.
- Class 7. Bicolor Barrii, Division 3b, 3 varieties, 3 stems each.
- Class 8. Giant Leedsii, Division 4a, 3 varieties, 3 stems each.
- Class 9. Short cupped Leedsii, Division 4b, 3 varieties, 3 stems each.
- Class 10. Poeticus, Division 9, 3 varieties, 3 stems each.

## Section B—Exhibitors in Section B may not exhibit in Section A

- Class 11. One Yellow Trumpet, Division 1b.
- Class 12. One White Trumpet, Division 1b.
- Class 13. One Bicolor Trumpet, Division 1c.
- Class 14. One Yellow Incomparabilis, Division 2a.

- Class 15. One Bicolor Incomparabilis, Division 2b.
- Class 16. One Yellow Barrii, Division 3a.
- Class 17. One Bicolor Barrii, Division 3b.
- Class 19. One Giant Leedsii, Division 4a.
- Class 20. One Short-cupped Leedsii, Division 4b.
- Class 21. One Poeticus, Division 9.

## Section C—Open

- Class 22. One Triandrus Hybrid, Division 5.
- Class 23. One Cyclamineus Hybrid, Division 6.
- Class 24. One Jonquilla Hybrid, Division 7.
- Class 25. One Tazetta, Division 8.
- Class 26. One Double Variety, Division 10.
- Class 27. One or more varieties included in Division 11.
- Class 28. Collection of 6 yellow daffodils without red or orange, one stem each.
- Class 29. Collection of 6 white or whitish daffodils without red or orange, one stem each.
- Class 30. Collection of 3 varieties with red or orange on the cup, one stem each.
- Class 31. Collection of 3 varieties with two or more flowers to a stem, one stem each.
- Class 32. Collection of 3 Poeticus varieties, one stem each.

## Section D—Open. Other Spring Flowers

- Class 33. Collection of flowering shrubs, 3 varieties, one spray each, not over 18 inches long.
- Class 34. Collection of 3 varieties of flowers from bulbs other than daffodils, 3 stems each.
- Class 35. Collection of 3 varieties of perennials, 3 stems each.

## Section E—Open. Arrangements

- Class 36. Daffodils with daffodil foliage only, in low bowl.
  - Class 37. Daffodils with flowering shrubs, not over 18 inches wide.
  - Class 38. Spring flowers with some daffodils, not over 18 inches wide.
  - Class 39. Two dozen or more daffodils with daffodil foliage only.
- Doubles. No classes have been provided in the schedules for double varieties. Such classes should be added in clubs whose members grow them in sufficient variety and quantity to assure exhibits. Or arrangement classes specifying doubles and bunch-flowered varieties would be somewhat unusual and educational.

Price Classes. A whole show, and an interesting one, could be made of one class, announced a year ahead: "Collection of six varieties not to exceed two dollars for ten in price and to represent several divisions of the R. H. S. Classification."

Commercial Exhibits. If these are desired a separate room should be set aside for them, otherwise they will surely dominate the show. Or limited classes might well be provided for them and awards made, as for example:

- Class 1. Collection of twelve varieties, 3 stems each, to cover Divisions 1, 2, 3, 4, and 9.



Class 2. Red cupped varieties, 3 varieties, 1 stem each.  
If the club buys its bulbs as a group, it might offer the club order as prize to the winner of such an exhibit.

#### CLASSIFICATION

The accepted standard classification of daffodils for garden and show purposes is that of the Royal Horticultural Society printed above. The bulk of all garden varieties falls into Divisions 1, 2, 3, 4, and 9. Divisions 7, 8, and 10 rank next in quantity, while Divisions 5, 6, and 11 are not often found outside the gardens of daffodil fanciers. Through the use of this classification flowers compete with those of their own type and judging is simpler for the judges and more satisfactory for the exhibitors. Color classes may cut across the divisions without doing violence to fairness because the emphasis in them is color rather than form.

The Royal Horticultural Society publishes a Classified List of Daffodil Names which places over six thousand daffodils in their proper divisions but, even so, many daffodils, especially of Dutch and American origin, will not be found in the list. The daffodil specialist of the club should be familiar with the classification so that unlisted flowers may be readily placed in their proper divisions.

#### THE ROYAL HORTICULTURAL SOCIETY'S CLASSIFICATION OF DAFFODILS

##### *Division 1.—Trumpet Daffodils*

Distinguishing character—Trumpet or crown as long as or longer than the perianth segments.

- (a) Varieties with yellow or lemon colored trumpets, and perianth of same shade or lighter (but not white).
- (b) Varieties with white trumpet and perianth.
- (c) Bicolor varieties, i. e., those having a white or whitish perianth and a trumpet colored yellow, lemon, or primrose, etc.

##### *Division 2.—Incomparabilis*

Distinguishing character—Cup or crown not less than one-third but less than equal to the length of the perianth segments.

- (a) Yellow shades with or without red coloring on the cup.
- (b) Bicolor varieties with white or whitish perianth, and self-yellow, red-stained, or red cup.

##### *Division 3.—Barrii (Incorporating Burbidgei)*

Distinguishing character—Cup or crown less than one-third the length of the perianth segments.

- (a) Yellow shades, with or without red coloring on the cup.
- (b) Bicolor varieties with white or whitish perianth and self-yellow, red-stained, or red cup.

##### *Division 4.—Leedsii*

Distinguishing character—Perianth white and cup or crown white, cream, or pale citron, sometimes tinged with pink or apricot.

- (a) Cup or crown not less than one-third but less than equal to the length of the perianth segments.
- (b) Cup or crown less than one-third the length of the perianth segments.

*Division 5.—Triandrus Hybrids*

All varieties obviously containing *N. triandrus* blood, such as Queen of Spain, Earl Grey, Eleanor Berkeley, Moonstone, and Agnes Harvey.

- (a) Cup or crown not less than one-third but less than equal to the length of the perianth segments.
- (b) Cup or crown less than one-third the length of the perianth segments.

*Division 6.—Cyclamineus Hybrids**Division 7.—Jonquilla Hybrids*

All varieties of *N. jonquilla* parentage, such as Buttercup, *odorus*, etc.

*Division 8.—Tazetta (Garden Forms and Hybrids)*

To include *N. Tridymus*, poetaz varieties, the dutch varieties of Polyanthus Narcissus, *N. biflorus* and *N. Muzart*.

*Division 9.—Poeticus Varieties**Division 10.—Double Varieties**Division 11.—Various*

To include *N. Bulbocodium*, *N. cyclamineus*, *N. triandrus*, *N. Jonquilla*, *N. Tazetta* (wild forms), *N. viridiflorus*, etc.

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2. Classification. *National Horticultural Magazine*, April, 1932. Gives R. H. S. Classification with pictures.
3. A Well-considered Schedule for Judging Narcissi. Florence Edna Foote, *National Horticultural Magazine*, January, 1933.
4. Making and Understanding the Schedule. John C. Wister. The Federated Garden Clubs of New Jersey. Mrs. A. M. Decker, 200 Summit Avenue, Summit, N. J. Price 50 cents.
5. Horticultural Exhibitions. Furman Lloyd Mulford. U. S. Department of Agriculture, Miscellaneous Publications No. 85. For sale by Superintendent of Documents, Washington, D. C. Price 10 cents.
7. Schedule for Daffodil Show of Royal Horticultural Society may be had a year ahead by application to the Society at address under 1.
8. Schedule for Daffodil Show of the Midland Daffodil Society may be had a year ahead by applying to the Secretary, Mr. Herbert Smith, 20 Tenby Street, North, Birmingham, 1, England.
9. Exhibiting Daffodils by J. L. Richardson. The Daffodil Year-Book, 1933. The Royal Horticultural Society (address above). Price 6s.



*Lilian A. Guernsey*

*Yellow Trumpet Narcissus, Dawson City*



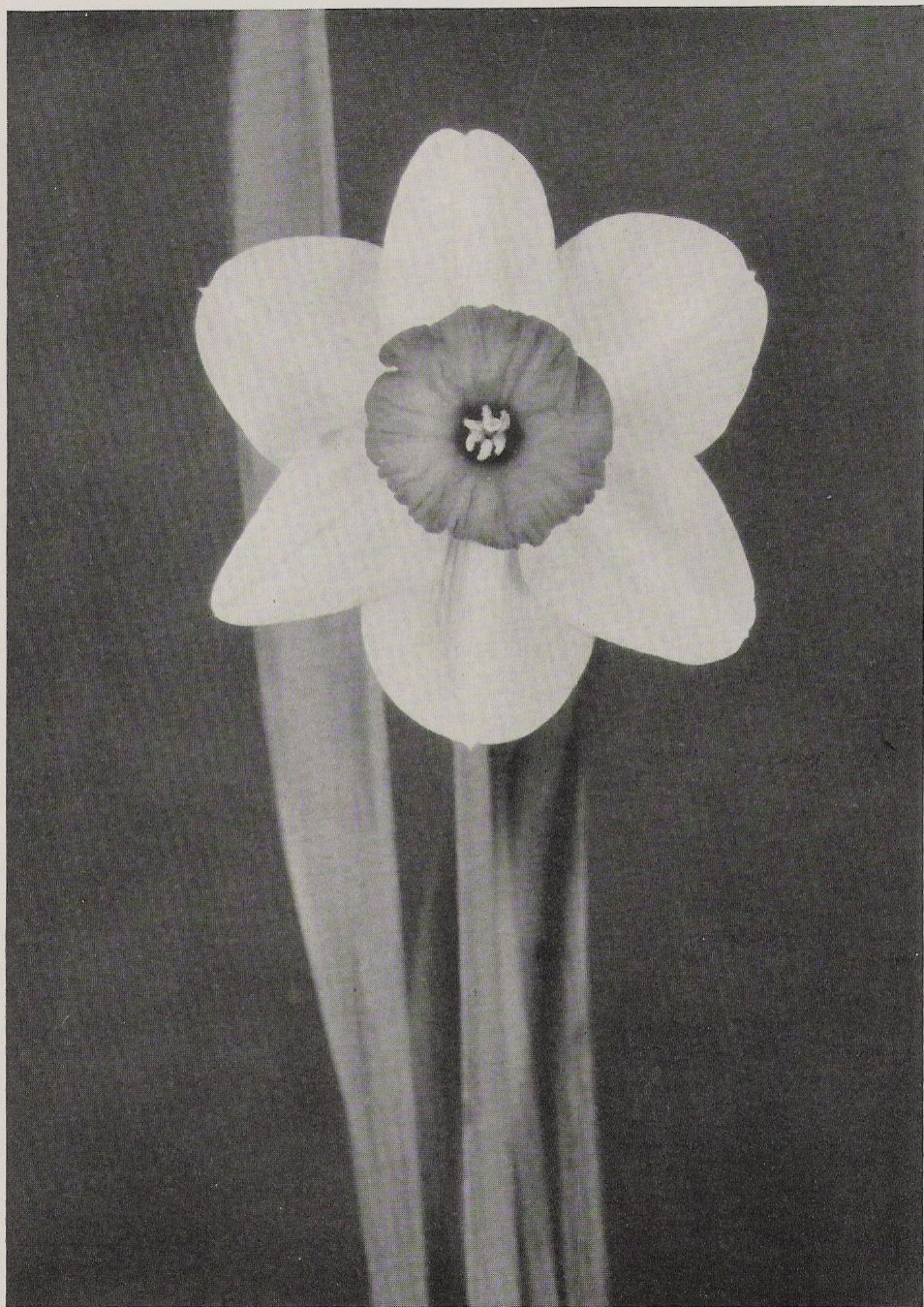
*Lilian A. Guernsey*

*Bicolor Trumpet, Tapin (upper), White Trumpet, White Conqueror (lower)*



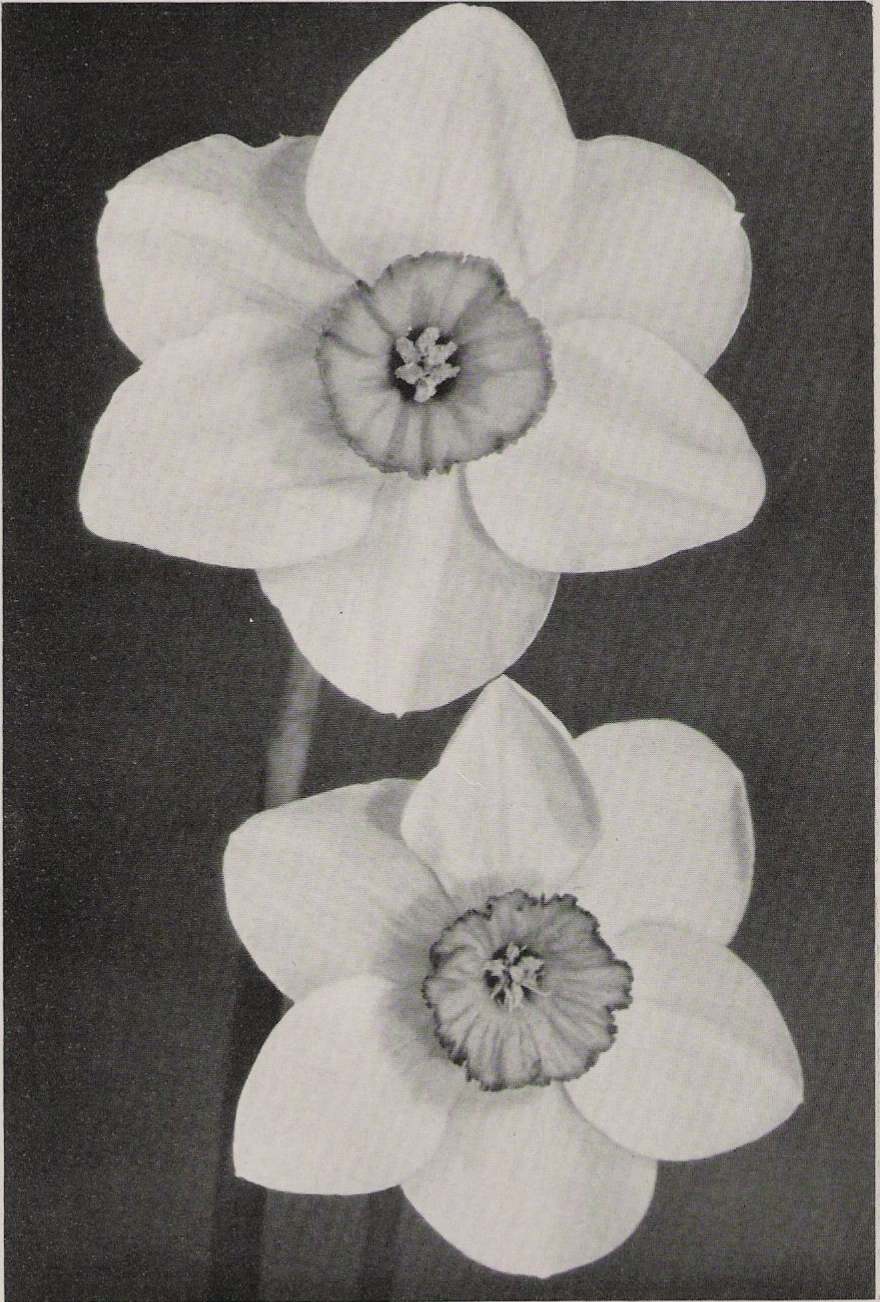
*Lilian A. Guernsey*

*Incomparabilis Narcissus, Pilgrimage*



*Lilian A. Guernsey*

*Incomparabilis Narcissus, Croesus*



*Lilian A. Guernsey*

*Barrii Narcissus, Mrs. Nette O'Melveny (upper) Mrs. Barclay (lower).*



*Lilian A. Guernsey*

*Leedsii* Narcissus, *The Fawn* (upper) and *Irish Pearl* (lower)





*Lilian A. Guernsey*

*Triandrus-Ajax Narcissus, Cingalee*



*Lilian A. Guernsey*

*Triandrus-Leedsii Narcissus, Niveth*



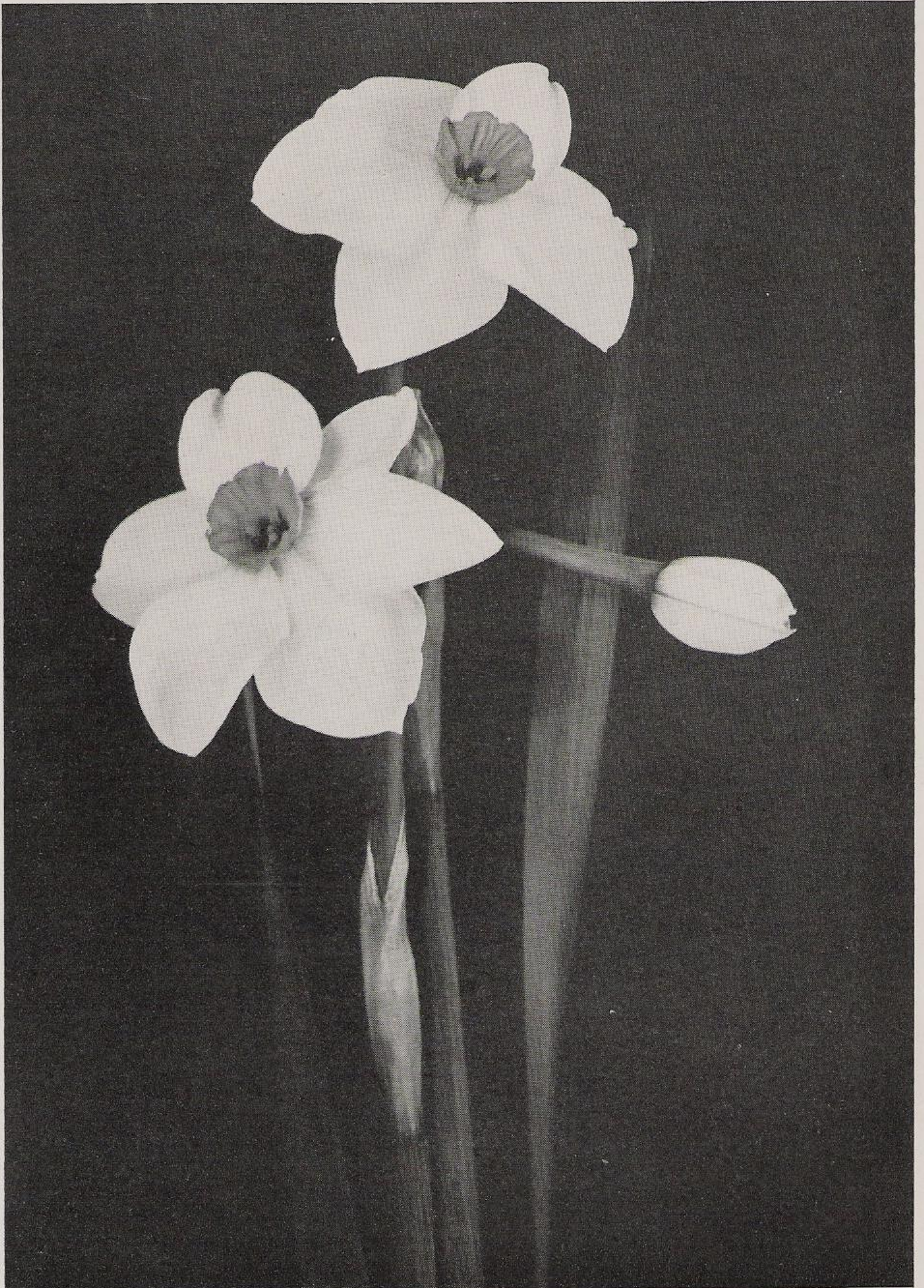
*Lilian A. Guernsey*

*Hybrid jonquilla form*



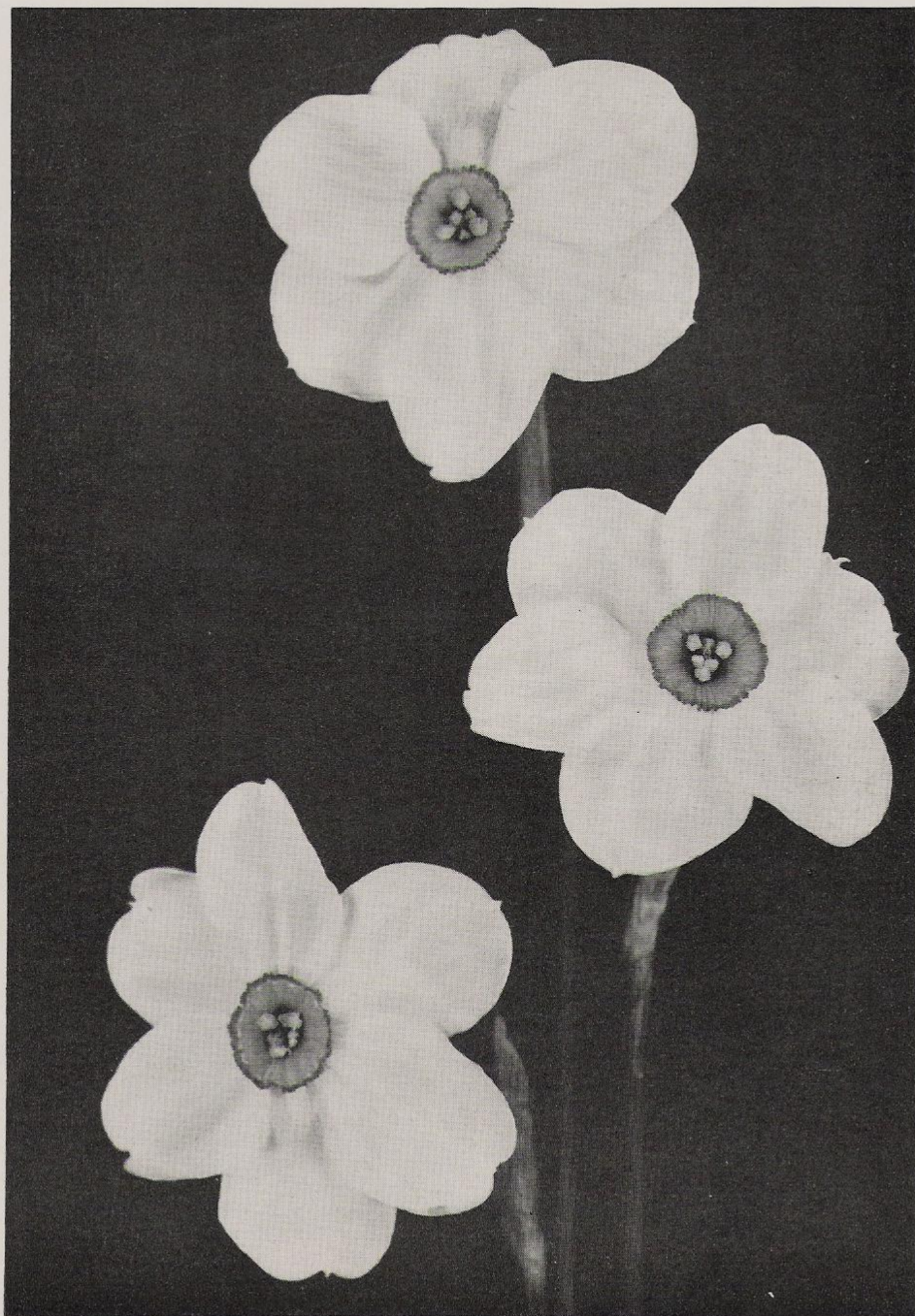
*Lilian A. Guernsey*

*Tazetta Narcissus, Soliel D'Or*



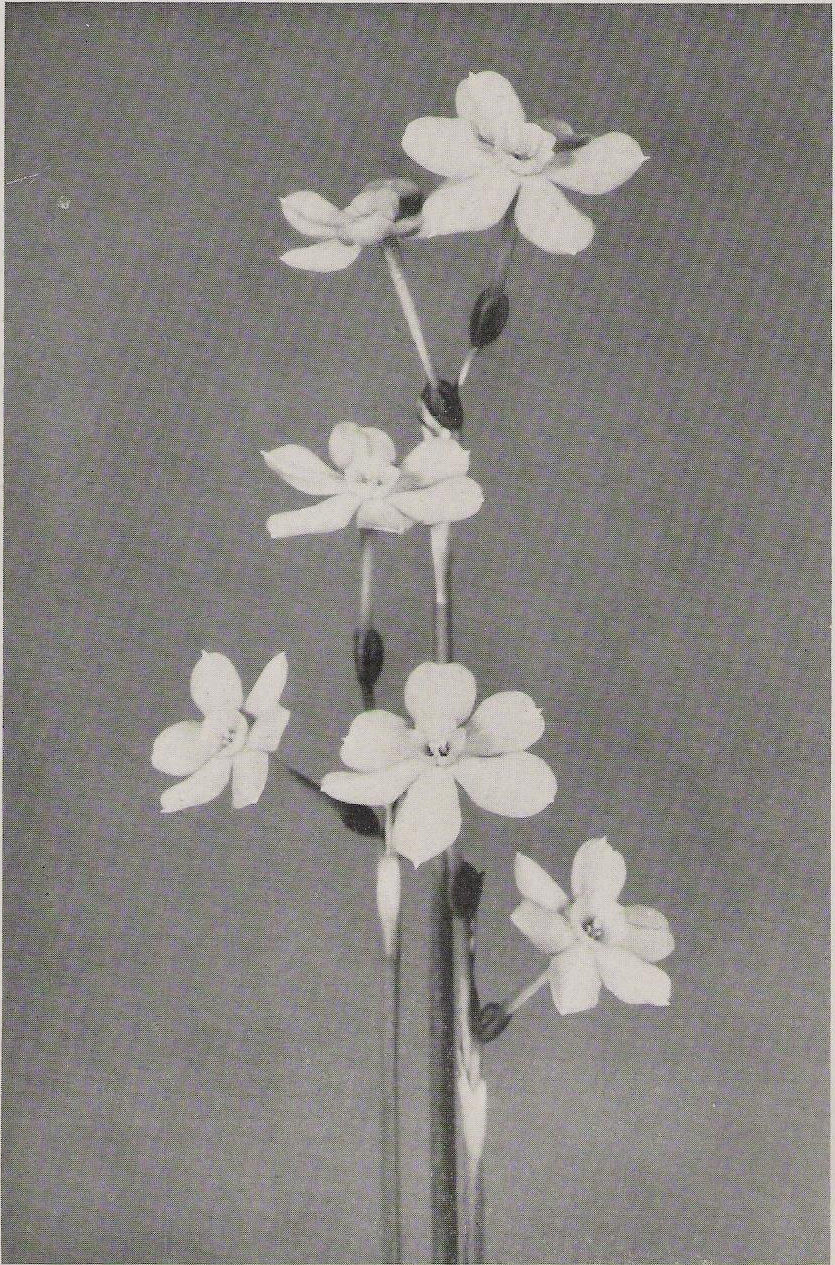
*Lilian A. Guernsey*

*Poeta's Narcissus, Medusa*



*Lilian A. Guernsey*

*Poeticus Narcissus*



*Lilian A. Guernsey*

*Narcissus jonquilla*



*Frank I. Jones*

*Narcissus triandrus albus*





Donald Merrett ©

*Narcissus minimus*  
*Narcissus bulbocodium*



*George C. Stephenson*

*Narcissus cyclamineus*

# Daffodil Notes from the United States Bulb Station, Bellingham, Washington

DAVID GRIFFITHS

Much of the activity at the Bellingham Bulb Station is concerned with a study of the daffodil. About 2½ acres are now devoted to the crop. Naturally the major interest is in commercial aspects, wherein studies are made of production, methods of handling, planting, harvesting, curing, and maintenance of health of the stocks.

Since the establishment of the station methods of planting and digging have been entirely changed. The plow has been substituted for the shovel in both operations. Instead of moving 4 to 6 inches of soil over the entire plot an average distance of 4 feet with a shovel there is now no moving of soil except what is done by a 12 or 16-inch plow drawn usually by one horse in planting and two in digging.

The most effective daffodil pest control ever invented is the hot-water treatment first applied by J. K. Ramsbottom in the employ of George Munro of Covent Garden, London. The apparatus for applying the treatment has been decidedly simplified at the station in recent years. Instead of complicated machinery costing the growers about \$1,000 for each unit, the expense has been reduced to about \$150 for one that will last indefinitely and can be operated with no engineering skill.

Since the major interest at the station is in the commercial aspects of daffodil culture, it follows that the main varieties employed are those most used in the florist trade. Such varieties are slowly but constantly changing. The commercial varieties of 20 years ago are largely relegated to the background today. Instead of Emperor, Empress and Victoria, King Alfred Spring Glory, Glory of Sassenheim, Tresserve and Van Waveren's Giant are most in evidence.

No effort is made to keep up with the plethora of ultra-modern and consequently expensive forms. The best and most used of the commercial sorts together with a moderate representation of the newer varieties that have some commercial promise are the ones grown in the regular collection. They are dug and planted each year and their qualities are tested in various ways. This means that the regular station plantings are confined to comparatively few varieties.

## NATURALIZING

While the older forms and many of the newer ones as well are no longer grown in the regular field collection, it has been the policy from the start not to entirely dispense with a daffodil variety which has come to hand from any source. A half acre plot 50 by 400 feet is set aside for the preservation of such stocks. From time to time as varieties of this kind accumulate they are plowed into this plot in rows 2 feet apart and 6 inches apart in the row. Planting occurs at the regular planting season in August and the area is kept free of weeds until spring, when timothy is sown over it. No further



*Daffodils naturalized along the brook*

attention is required except to mow the hay once or twice a year. In this way the varieties are all preserved and there is an attractive addition to the vernal display without an undue burden on the station's resources.

It should be noted that the naturalizing is done in grasslands and not in woodlands, as so commonly advised and in which such charming effects are produced. Naturalizing in woodlands is scarcely practical in our situation because of the very rampant growth of native shrubs and trees which requires a constant and burdensome amount of labor to keep in check. Consequently the land has been first placed in a thorough state of cultivation, and the brush and bracken all killed out before the bulbs are planted.

About the most practical way to establish daffodils in woodlands under our conditions would be to remove the forest, thoroughly till the soil, re-establish the woods, and then plant the daffodils. The removal of the undergrowth, large shrubs, undesirable trees and a part of the better species leaves the remainder leggy and easily toppled over. This has actually occurred on the station. Two acres of forest was opened up for seminatural plantings of daffodils and other bulbs. Within a year a score of the large trees were blown over, necessitating a considerable revamping of the area and endangering still more of the remaining trees.

One and one-half to two acres of land is now covered with naturalized daffodils, representing quite an extensive list of varieties of mostly the older sorts. Even *Ard Righ* and *Obvallaris* are found there. It is difficult to realize

that only a third of a century ago these were good daffodils. They are seldom seen today.

There is in this naturalized collection a wonderful opportunity to compare the behavior of different varieties. Some succeed much better than others, but so far as recalled now none have gone out entirely. It is not the intention to go into this subject in the present paper, for to do it justice will require more space than it is wise to occupy now. Possibly the editor will allow a discussion of the comparative merits of the 75 to 100 varieties for naturalizing in some future yearbook.

#### BORDER PLANTINGS

Fully as interesting as the naturalizing in meadows have been the equally long-lived plantings in well-tended borders. Both of these ventures had as one of their objects a study of the effect of the daffodil fly on the crop. Van Waveren's Giant has been employed principally for border planting because of its large stature and large bulb preferred by this insect.

There are few more attractive sights on the station than this variety between clumps of lilies, xerophyllum, delphinium, and widely-scattered shrubs. The original setting was made deep, and single-nosed bulbs were placed in clumps of 3 spaced 6 to 8 inches in the clump. The display has improved yearly for the 6 years they have been planted. Last spring each original planting of 3 bulbs had increased to a flowering of 1 to 3 dozen flowers. For the first 3 years no attempt was made to control the fly, but since then crude naphthalene flakes are scattered thinly around each clump and a little soil pulled over them at the close of the blossoming. Examinations made last spring as well as the year previous failed to disclose any infestation.

Van Waveren's Giant is not a particularly successful variety in our grassland, but in a well-tended border it is a superb thing. It does not seem to be able to compete successfully with timothy in our climate!

Daffodils are now found on the station in all sorts of densities. The regular field planting, dug and reset every year, has over the entire area an almost complete canopy of blossoms, the bulbs being set not less than 3 to the foot in rows 15 inches apart. The foliage here is so rank and the blossoming so dense that experienced foreign growers have marveled that the foliage stands up and functions to the end of the season. The naturalized setting is 2 to the foot in rows 2 feet apart. There are meadows where bulbs missed in digging have persisted and increased for the past 10 or 12 years; there are borders with scattering clumps well tended; and there are a few clumps of 6 or 7 bulbs each among trees. All of these plantings are decorative. It matters not with the daffodil whether the planting is in dozens or millions; it attracts attention and presents a pleasing appearance.

#### SEEDLING CULTURE

The seedling culture of daffodils at the station was undertaken mainly to demonstrate the possibilities for this country and these conditions. About 60 seedlings selected from several large progenies are being propagated. It is too early yet to decide whether these are really commercially important, but it is felt that if stocks were worked up nothing would be lost if we were de-



*A clump of Van Waveren's Giant in the border, the fourth year after planting three bulbs*

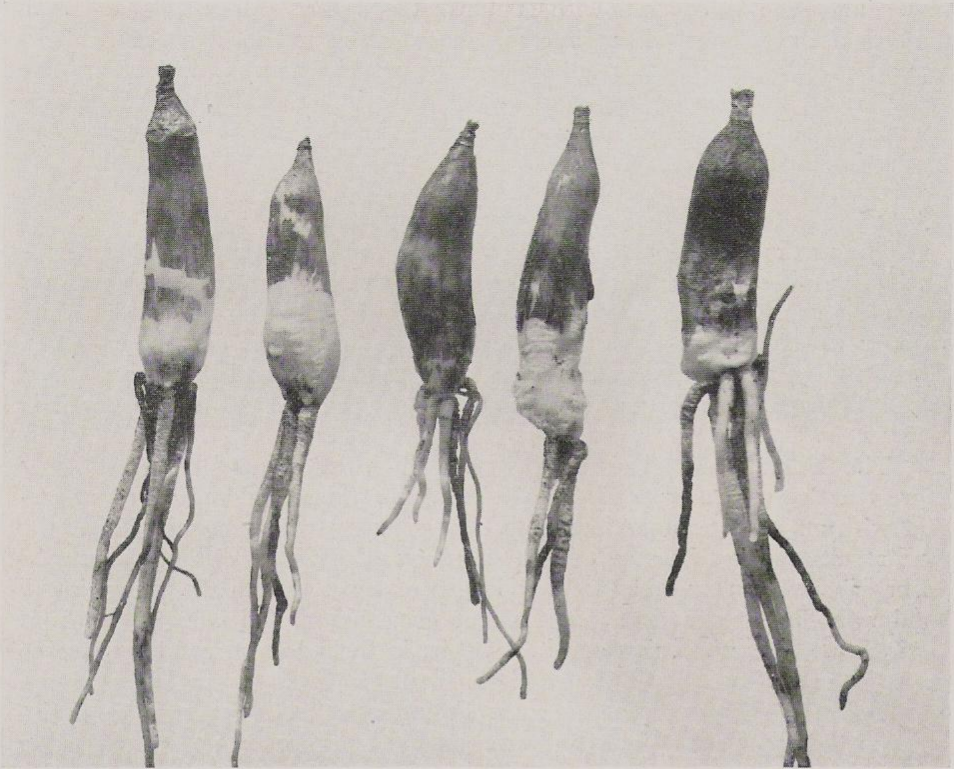


*A field planting of Golden Frilled and Olympia*

prived of the existing commercial trumpets and Incomps. There are among them King Alfred types that blossom with Golden Spur. Some of the giant Incomparabilis varieties, of which there are a considerable number showing unmistakable Golden Frilled influence, are quite attractive. Possibly the most striking one is Tantarax, named in honor of the old mythical king of the magic land of Quivira, which in the Spanish mythology came to represent all of our western and northwestern country. Through this principality ran the Straits of Anian (the Northwest passage), which name has been used for another giant Incomp. with milk-white perianth derived from Great Warley.

The thought occurs to me that the time may come, in the not distant future, when each daffodil fancier may have a series of daffodils of his own, varieties which he has produced from seed by his own efforts. The condition which exists in the bearded iris can easily be duplicated in the daffodil. True, it will take a couple of years longer, but what does that matter?

It would be the best of sport to see 2 dozen or more members of the society go at such a venture in earnest, determined to produce daffodil varieties of their own such as no one else has with the chances favorable that there will be none better anywhere. The investment necessary consists mainly of time and patience. I would tackle such a job a little different possibly from most breeders. Should like to see a number of people select 2 good common varieties, produce 1,000 or more seeds by reciprocal cross pollination, and grow the progeny on to maturity. Many combinations suggest themselves: Great Warley, Phyllida or Golden Frilled with King Alfred, Van Waveren's Giant, Plato or Robert Sydenham, would do very well. It would be the best



*Two-year-old daffodil seedlings from the seed bed. Note how the bulbs are pulled down by the large contractile roots, leaving the outer parchment-like covering where the bulb was located before.*

of fun to have a dozen members exhibiting series of seedlings from such progenies. A dozen or any number of members might make up a series of combinations in conference, put them in a hat and draw the combination they are to work on. Such progenies would more than likely exhaust the possibilities of the combination, a thing which has never been done so far as known.

#### GROWING THE SEED

Handling daffodil seed and seedlings is rather critical at times. As now well known, open field culture for nearly all seed is practiced at the Bellingham station. This method is practical because we have moisture at the surface of the soil continuously from September to June. Under such favorable conditions there is no need for the protection of frames or glass houses.

The last days of August is the favorite time with us to plant daffodil seed for spring germination. It should not be held too long after it ripens because it dries out too much for prompt response after being put in the soil. Some seed held for spring planting has taken 2 months to come up.

Plantings are made at a uniform depth of 1 to 1¼ inches in 3-foot beds with rows 6 inches apart. Not less than 100 seeds are planted to the 3-foot



row. The seed is covered with composted soil that will not "bake" and the beds are not disturbed for 2 years, when digging and spacing occur. It is a good plan to mulch the seedling beds to prevent heaving and other disturbance of the soil. A top dressing of a quarter to half an inch of rich composted soil applied before the mulch or after it is removed in very early spring is beneficial.

#### CULTURAL NOTES

The methods of culture employed by the bulb grower to produce first-class stocks used by the householder, and it must be admitted that these are better than the householder usually succeeds in growing himself, should furnish an excellent guide for the amateur in his operations and experiments. The Bellingham station has succeeded in producing excellent stocks for a period of years. It may not be amiss to say a word here about the way it is done.

The soils at Bellingham are heavy. When first cleared of forest 15 or more years ago there was only 8 to 10 inches of surface soil and débris underlaid with an almost impervious clay. It is pretty well recognized that the best results can not be secured in the culture of daffodils without a safe 18 inches above a water table for any length of time. From the viewpoint of total rainfall our situation is not a wet one, the rainfall being only about 35 inches. In spite of this our heavy soils in their natural condition are so retentive of moisture that they are detrimentally wet a large part of the winter.

To correct this condition the natural thing would be to resort to tile draining, but before tile can function such soil must be broken up so that water will percolate through to the tile. The main point to be made here is that deep culture is imperative for best results. This is just as applicable to the amateur as to the commercial producer of daffodil bulbs. The station is now aiming to thoroughly break up the subsoil to a depth of 20 inches. When this is accomplished the tillage may be deepened to 24 inches, which is the full capacity of the present equipment.

Both amateur and professional growers should realize the vast difference existing between a daffodil and an onion crop, for instance. Experience with a spring-planted crop is a poor guide for handling one which is late summer planted and goes through the winter with the main object of its existence all developed, set, and ready to break out into full blossom and vegetative vigor as soon as the weather moderates a very little in the spring. These floral and vegetative structures are not only formed but often are outside the bulb ready to push through the soil before winter is over. Such structures can not withstand stagnant water about them.

#### PLANTING DATE

Another point to which the Bellingham and other Department stations have devoted a great deal of study relates to the date of planting. An experienced grower advised in my presence once—"Plant as early in September as possible." This is as good advice as can be given in a sentence. Some of the best amateur daffodil growers of the British Isles advise planting as soon as they dig. This is also good advice so far as they and their conditions are concerned.



*Harvesting with a plow. The bulbs are in the sod-like furrow just turned.*

At the Bellingham station a strenuous effort is made to get daffodils back into the ground by the middle of August so that we can have the two last weeks in August to handle lilies. We have not infrequently had daffodils back in the ground by the end of July. This again is considered good practice.

In Virginia an effort is made to get daffodils planted in early September, but the last of September or early October is the planting date in North Carolina, and this is considered good practice also.

It may seem difficult to reconcile these widely varying practices and recommendations, but there is reason back of all of them. In a region perfectly adapted to the culture of this crop the natural and the best place for the bulbs is in the soil. In regions having hot wet summers the situation is quite different. The quickening into new life occurs in the daffodil bulb at the time that the summer heat begins to subside, so there is not much use in planting before the first of September in the Atlantic coastal plain. Indeed, in the warmer portions it may be actually detrimental to place the bulbs in the hot, wet, unshaded soil until summer heat has been somewhat ameliorated.

It is considered at the Bellingham station that August, all things considered, is the best month for planting. The most advantageous time in Virginia may be 1 to 2 months later for the reasons stated; but in any region the earlier the bulbs are put in the better unless the summer heat factor interferes. The cool climate of the Puget Sound region is well adapted to the culture of the daffodil largely because of the lengthened growing season. The bulbs start rooting quite promptly the last of August or the first of September and growth continues to early July, a long season conducive to the best bulb development.

Bulbs planted late usually blossom satisfactorily, but late planting does not produce so large nor so fine a bulb. Our members should therefore aim to give their daffodils as long a season of growth as possible commensurate with their summer heat conditions, and those in the warmer sections should not be disappointed when the large, firm and fat bulbs produced in cooler regions dwindle in size with them.

# Quarantine 37 and the Daffodil Industry

JAN DE GRAAFF

The announcement, made on January 14th of this year, that by the end of 1936 the Department of Agriculture will allow the unlimited entry of foreign narcissus bulbs into this country, comes as a complete surprise to the men actively engaged in the production and sale of these bulbs. Constant pressure was apparently brought to bear on the Department from the foreign countries, notably France and Holland, which suffered greatly from the restrictions of Quarantine 37. Recently it became evident to the careful observer that some alteration in the department's policy was due. That this would come as early as 1936 was, however, a surprise which may well affect the future of the narcissus industry in the United States.

The first intimation of the Department's plans to limit the importation of narcissus came in the summer of 1922. In December of that year it was announced that the unlimited entry of foreign narcissus bulbs would be authorized only for a further three-year period. On January 1st, 1926, the full quarantine on narcissus bulbs finally went into effect. By the end of the 1936 season, when unlimited entry is again possible, a ten-year period of narcissus quarantine, virtually an embargo, will have been concluded. In those ten years a daffodil industry of large proportions has been established in the United States. At this time its production is more than ample for the present needs of the country. Innumerable hardships have been overcome, thousands of men have been gainfully employed and in many districts this industry has brought relief to stricken farmers.

Will the end of the 1936 season spell the end of the American daffodil industry or will the growers be able to surmount this new obstacle and successfully defend their hard-won place against foreign competition? From the standpoint of economical experimentation it will be absorbing to study the issue and its outcome. For the thousands of men, engaged in this new industry, this new ruling may well mean the total loss of their investment. So far as it concerns the future of the daffodil in this country, its dissemination and popularity, the issue is confused.

It is interesting to examine more closely the effect that the restrictions of Quarantine 37 have had on the development and distribution of daffodils in the United States. Up to five years ago such a study would undoubtedly have led to the conclusion that Quarantine 37 had been a very great handicap. If at that time critics of the measure had predicted that commercial production of daffodils in this country would soon have to be abandoned, there would have been few to take issue with them. At that time the quality of the finished product left very much to be desired, the supply of bulbs was small, prices were abnormally high and the number of varieties was limited. Practically all growers had established their cultures without sufficient knowledge of the climate, labor conditions and without any preliminary experimentation. In the early days of the restrictions enormous plantings, started in California and in the southern states, had to be abandoned within a few years. Many mis-

takes were made both in the treatment of dry bulbs and in cultural methods. The required hot-water treatment of all imported stock was often applied without the necessary precautions with the result that the losses were enormous.

Since 1931, however, with the intensive development of the Pacific Coast industry and with the new scientific data made available by the Department of Agriculture, both quality and quantity of American-grown narcissi have made rapid improvements. The public demand for good daffodils has also increased very rapidly. While prior to 1931 there seemed to be very little interest in daffodils, a decided change became noticeable after that year. It may have been that the controversy over the necessity of the restrictions of Quarantine 37 aroused the public interest. Although it undoubtedly would have been stimulated without these restrictions, on the other hand, it may well be that, were it not for the limited importations during the 1926-1931 period, the daffodil would by this time have taken first place among the varied interests of our gardening public. Whether for good or for ill, Quarantine 37 already has had a decided and profound effect on the daffodil industry in all countries, and I sincerely believe that this influence has not been entirely detrimental.

In the first place, the intensive culture of daffodils on an unprecedented scale in this country necessitated new operations which in the future will, and already have had, some bearing on foreign production methods. The scientific data on wholesale chemical treatment to control basal rot, the very effective cyanide gas control for the narcissus fly, the simplification of the hot water treatment and last, but not least, the splendid work on cold storage methods for early forcing preparation of daffodils are definitely American contributions to our industry. Although in many cases these methods were not original, their use in large scale operations and the practical data collected by investigators for the U. S. Department of Agriculture have undoubtedly been of incalculable value to the daffodil industry at large. The work of American investigators of the mosaic disease in daffodils with the resulting possibility of eradicating it in even the largest cultures may well prove to be a factor which will save the industry from irreparable losses. While all these investigations and new procedures might have been discovered and applied without the stimulus of Quarantine 37 and the necessity of establishing daffodil farms in this country, there is no doubt that at no time could foreign countries have afforded to give this comparatively minor industry as much attention and support as the U. S. Department of Agriculture has done. It is all the more regrettable that much of this notably fine work towards disease eradication and its practical application on the large American plantings may soon have to be abandoned. After ten years of growing daffodils on a very large scale it is still my belief that a disease-free culture of daffodils is possible. In fact, I believe that such a clean culture is essential if we are to have a great general demand and public interest in daffodils.

The effect of the restrictions of Quarantine 37 on foreign countries has been very great. The United States was one of the most important markets for the French paperwhites and the loss of that market has had far reaching effects on the prosperity of their bulb-growing districts. For Holland also the loss of this market proved to be a great loss. Yet in both countries the growers continued their work with the result that they will be ready to regain

their lost markets as soon as foreign importation is again possible. Especially in Holland have the daffodil stocks been kept in excellent condition. Since the compulsory crop reduction plans of the Dutch government necessitated the destruction of practically fifty per cent of all daffodils, the growers have naturally destroyed their weakest and poorest stocks. Because of the fact that only limited areas could be planted with daffodils, the Hollanders have whole-heartedly worked towards a selection of the best types and in such varieties as Sir Watkin, von Sion and Minister Talma they have developed blocks of mosaic-free stocks that by their vigorous appearance astonish even the expert. The effect of the sudden abandonment of the restrictions of Quarantine 37 will undoubtedly be an increase in the area grown in foreign countries. The excellent foundation stocks which have been developed there and the lifelong experience of the foreign growers will evidently give rise to a very severe competition which the American growers will have to meet. Whether in the face of such rivalry the men in this country will be able to maintain their position and continue to supply the American market will depend entirely on their ability to compete with the European growers.

Of the ten years of comparative protection which the American growers have enjoyed, at least five have been spent in experimentation and only five in a normal and satisfactory production. The latter five years fell in the period of general economic depression and it is very doubtful if any American grower has even earned a small dividend on his investment. Since in those ten years the American growers have, nevertheless, had ample opportunity to work out the most practical and economical production methods, when in 1937 the country is once again open to foreign importation they will have a well-established industry which for the past five years has produced an eminently satisfactory product. Yet it is my belief that the chances for survival of their industry are very small. Production cost in this country is undoubtedly much higher than abroad. It must, furthermore, be remembered that all American plantings were established at a time when the cost of propagating stock was extremely high. The foreign growers have the advantage of cheaper labor and have held their stocks over a much longer period, so that as a rule they have a much smaller initial investment.

On the other hand, the American grower has some advantage. In the first place, as a rule, his bulbs will flower earlier than will the imported stock. It is possible to force Pacific Coast Golden Spur and King Alfreds in excellent condition for Christmas. I, therefore, believe that they will retain a market for early forcing daffodils. Many growers are also in a position to sell cut flowers from their fields, which in many instances gives them an appreciable income. Thirdly, their proximity to the marketing centers gives them a chance to compete with or even to surpass their foreign competitors in prompt deliveries. It is also likely that they will be able to retain a market for cheaper bulbs for naturalizing purposes, since with these bulbs, usually sold in carload lots, they have the advantage of cheaper freight rates.

I believe, however, that even with all these factors in their favor many growers will not be able to maintain their large plantings. The year 1936 may well be the last in which we can speak of daffodil-growing in the United States as one of the important agricultural industries.

Another very important question in connection with the impending

change in regulations is whether the opening up of the country will have a great effect on the variety of daffodils available to the general public. There has undoubtedly been a limitation in the number of varieties brought to this country and introduced to the public. This limitation was not, however, due Quarantine 37 and, far from regretting it, I see in it one of the greatest boons to the future popularity of the daffodil. To explain this possibly rather startling assertion I suggest a comparison of the varieties offered in this country with those abroad. About one thousand kinds are listed in the American catalogues. Compared to the number that our English and Holland colleagues offer, this is only a drop in the bucket. What are these thousand varieties? Are they a haphazardly chosen collection of more or less desirable types or a carefully considered selection? To give an answer we shall have to examine a little more closely the often devious paths by which a new daffodil reaches this country and the methods of selection that are used.

Holland is the great distribution center for new daffodils. The Holland growers, themselves very able hybridizers, have accumulated a great deal of experience in selecting new varieties and in estimating their commercial possibilities. They visit all foreign shows and, whenever possible, the trial grounds of foreign hybridizers. They are constantly seeking new and improved types. Of these they try to buy the best and grow them for some years, exhibiting them at various shows. This enables them to acquire the necessary critical knowledge and experience. Contrary, however, to the general belief, the Holland climate is not ideal for daffodils. Due to the cold weather, the bulbs have to be covered in winter and throughout the rigorous spring the flowers and plants undergo a very severe test. Under such adverse weather conditions hardiness and ability to keep color and form are essential. A few years on the windswept plains of Holland often prove too severe a test for a new variety and many that once looked promising in a secluded garden come to grief in Holland.

It is, therefore, plain that in Holland new daffodils undergo a most severe testing period. Not only are they compared to the best that has been produced, but climatic conditions as well provide an excellent test. The climate in the United States is yet more severe. The great differences in soil and temperature in this immense country make it imperative that, if a daffodil is really to attain popularity, it has to be able to survive under these conditions and do well. Quarantine 37 provided for a two-year period of testing in this country under the close supervision of the Department of Agriculture. Whereas the Department in no way passed on the merit of a flower, it is plain that no grower would venture to send over weak varieties and risk losing them, nor would he bother to send over varieties that have small chance of becoming popular with the public after they had once been released. Although by its requirement of a two-year quarantine period the Department of Agriculture actually did restrict the number of new varieties that were sent over, the public obviously did not lose thereby.

There is yet another factor that limits the number of varieties offered, that is, the great cost connected with their introduction to the public. While by means of their shows and trial grounds the foreign growers have ample opportunity to exhibit the full range of their new acquisitions and are con-

stantly in touch with their potential market, such a chance comes but seldom to the grower in this country. He must thus rely on catalogs and on the few shows to which he is able to send his flowers. Since catalogs, color plates and, in fact, everything connected with the introduction of new horticultural products are extremely expensive in this country, the grower will think twice before introducing some new variety, especially if he is not quite sure that it will become popular. The number of varieties has thus further been limited, though again through no fault of Quarantine 37. By thus restricting the number of varieties the loss to the public at large has been negligible. By public I mean here the many thousands of small home owners who are interested in gardening and yet are not experts in any one phase of it. For the expert daffodil collectors, and their number is rapidly growing, who wish to test new varieties not commonly listed. One was to get them from the extensive trial grounds which nearly all commercial growers in this country maintain. On the Pacific Coast several have hundreds of varieties not yet offered commercially and I believe that in the East a good many growers have similar collections. Another way has been to import varieties from abroad under special permit, an opportunity which has been open to every bona-fide gardener who has been able to show that he has facilities to care for such importations.

The approximately thousand varieties that are now offered commercially in this country are then the results of several carefully considered selections. They represent the very best that has been produced abroad during the past twenty years.

At the end of the war when the interest in bulbs once more increased, the Hollanders had their nurseries well stocked with many fine varieties. Since new growers were anxious to obtain stocks, a lively interest and trade in daffodils ensued. There was no speculation, but rather a careful, well considered building up of stock on all sides. Prices were rising and the demand increasing but—and this is a very important point to remember—so far as the new varieties were concerned, the demand came almost exclusively from the trade itself. When Quarantine 37 was announced much of this work was very rudely upset. At that time every grower or breeder believed that at some time the United States would be one of the best markets for his products. Between the time of announcement of Quarantine 37 and the day it finally went into effect many large collections of the finest novelties were sent over to be grown and propagated in this country. Many of these went into the hands of commercial growers for stock purposes. It at once became apparant that, apart from the difficulties connected with successful commercial production, the selection of varieties was not such as to appeal to the public. What had happened? Accustomed as the Holland growers were to a keen and active market, they probably never realized that this demand was only among themselves and a few foreign growers and hybridizers. Neither in Holland nor in any other country had the public ever invested heavily in expensive or even in medium-priced daffodils. Not only did the public in the United States not know the newer daffodils, due to the war and possibly to the much discussed Quarantine, which made many people believe that daffodils could no longer be obtained or were all infested with disease, but the demand had actually

fallen off. Once more the stocks, by this time already grown in this country, were submitted to a further selection and the mixtures offered for naturalizing purposes were much enriched by the many hundreds of discarded varieties. That after all these selections still approximately one thousand varieties can be offered speaks for the high development of the newer daffodils and, if this number is smaller than that which is offered abroad, this restriction is decidedly no loss to the public.

As I write this article I have before me the catalogs of the leading distributors in this country. It is at once apparent that, far from faring badly, the American public is offered a selection of varieties greatly superior to that of other countries. Although smaller, our list includes all types and classes and, on the whole, shows a better average than that which is generally offered abroad. In requiring the two-year quarantine period the free importation of often spurious novelties has been curbed and the public can rest assured that when it buys new daffodils in this country, they will at least be of proven merit.

Quarantine 37 has been the essential factor in the improvement and maintenance of the health of American-grown daffodils. Its protective features have enabled the American growers to build up an industry which at the present time is fully capable of taking care of the demand, not only as regards the quantity and quality of the product, but also in the distribution to the public of the very best and latest products of foreign hybridizers. Its sudden abandonment will throw back many thousands of acres of land into competitive farming. Some twenty thousand men, now gainfully employed in the industry, will have to find other means of livelihood. The economic advantages that foreign countries expect from this change in regulations will be largely offset by the competition that the American growers will offer.



# How Long is the Daffodil Season?

JOHN C. WISTER

The poet Herrick who complained that daffodils flowered such a short time would have a change of heart if he were alive today. The work of plant explorers and plant breeders in the last seventy years has not only given us daffodils of varying sizes, forms and colors, but has so lengthened the season that in the climate of our middle Atlantic states it is a matter of weeks and months rather than of days. Still, when I began to grow daffodils in my Philadelphia garden the belief of gardeners that the daffodil season is comparatively short was so universal that I was led to keep records of actual blooming dates.

To obtain the longest season of bloom requires the use of many different varieties and also if possible several different locations varying from south exposure fully protected from the north winds for the earliest flowers to north exposure with shade to the south for the latest. My garden is not large enough to offer these different conditions. It is all south slope and while fairly protected to the north yet is some five to ten days later than a protected rock garden on a nearby property. Only a few miles away is a naturalistic planting of daffodils on a steep north slope and there identical varieties are often ten to fourteen days later than mine. My conditions and the dates of blooming are therefore probably quite average for the Philadelphia region in reference to earliness or lateness.

From 1911 to 1921 I grew only a dozen or so of the common varieties. Of these *Horsfeldi* was usually the earliest, about April 1st or 2nd in normal seasons. It was as early as March 21st in a fairly sheltered spot in the early seasons of 1913 and 1921, and as late as April 7th in the late season of 1915. *Emperor* during those years usually opened about the 15th. In the late season of 1916 it did not open until the 21st, and in the still later season of 1917 was good on May 3rd.

For late bloom one of the older *Poetaz* varieties usually opened between April 15th and May 1st and in late years did not begin until May 6th. *Poeticus recurvus* normally flowered between May 5th and 15th and lasted until May 22nd in 1917.

Between 1921 and 1925 I increased my collection to over 300 varieties. In selecting varieties I tried to get the best varieties then available at a price within reach of my pocketbook, and took particular pains to get both the earliest and the latest varieties of each group in order that I might have the longest possible season, not merely of daffodils but of each group. I wanted late yellow trumpets as well as early ones, and early poets as well as late ones.

## EARLY VARIETIES

My earliest satisfactory variety is the cyclamineus hybrid *February Gold*. I had it on March 24, 1927, March 20, 1930, when it lasted until April 4th, March 28, 1931, when it lasted until April 18th, March 6, 1932

(these early flowers were destroyed by a sudden and long continued freeze and later flowers began March 29); March 29, 1933, April 5, 1934, and was still fine on 17th. *Minor* and *Lobularis nanus* are not vigorous with me, and very fleeting, only twice in eight years lasting as long as seven days. Some years they are a day or two ahead of *February Gold*. *Minimus* is probably the earliest of all. I had it one year as early as March 12th when nothing else bloomed before the end of the month, but it needs rock garden culture to survive. I no longer grow *Horsfeldi* or *Golden Spur* but get my greatest amount of early bloom from one of the cheap forms of pseudo-narcissus which has escaped from cultivation in our southern states. In 1931 it beat *February Gold* by four days though in a slightly more protected position, but most years it is a day or two behind.

In the larger trumpets *Winter Gold* is about the earliest. It began on March 28, 1929; March 28, 1931, and lasted till April 17th; March 30, 1932; April 3, 1933; April 5, 1934, and was still fine on 18th. *Alfred Hartley*, of which I had only one bulb, lasted from April 4th to 17th in 1932 and April 6th to 24th in 1933. *Goldbeater* is fine when good but is unusually irregular, as the following dates of opening show: April 22, 1926; April 15, 1927; April 6, 1928; March 31, 1929; April 5, 1930; April 13, 1931; April 3, 1932; April 4, 1933; April 11, 1934. The well known *King Alfred* begins with me usually between April 6th and 9th, the earliest being April 3rd in 1929 and latest April 19, in 1926.

My earliest white trumpet is *Snowflake*, a small and rather poor flower. It usually opens between April 5th and 10th, only once as early as March 27 (in 1929), and only once as late as April 12th (in 1927). *Alice Knights* has come as early as April 4th but averages around the 7th. The earliest bicolor trumpet I ever had was *Bonython*, which bloomed April 1st in 1932 and lasted till 15th.

In the early *Incomparabilis*, *Fortune* bloomed from April 8th till April 18th in 1933 and from April 10th to 21st in 1934. *Helios* comes about the same season and once came on April 1st (in 1932). *Henrietta* is about the same, its earliest being April 3rd (in 1929 and in 1932). The well known *Sir Watkin* in a protected spot once opened on March 28th (1929) but most years has started about April 7th and once (in 1926) did not start till April 26. The earliest of this entire group is *Colossus*, which in 1929 and 1930 opened April 1st and in 1933 on April 3rd. I have had so few flowers of it that I cannot judge its worth, but it certainly does not impress me as the others have.

The earliest *Giant Leedsii* is *Mermaid*. In ten years it has five times started between April 4th and 6th, once as early as March 28th, and only twice after April 11th. In nine years *White Nile* three times opened between the 3rd and 6th, three times between the 9th and 12th and three times between the 15th and 22nd.

#### MIDSEASON VARIETIES

The height of my season is usually about April 20th to 25th, only once (1925) was it as much as four days earlier and only twice (1928 and 1930) as much as five days later.

The following can roughly be classed here:

- Yellow Trumpet: Emperor, Apotheosis, Dawson City, Sylonix, Robert Sydenham.
- Bicolor Trumpet: Edison, Golden Beauty, Jack Spratt, Aeolus, Moira O'Neil, Silvanite.
- White Trumpet: Beersheba (early but not as early as Alice Knights), Mrs. E. H. Krelage, Moray, Everest.
- Incomp.: Wheel of Fortune, Lucinius, Pilgrimage, Sun-Yat-Sen, Mi-Careme, Market Gem, Lioba, Fleetwing, Loch Fyne, Frank Miles, Homespun, Croesus, Torch, Lucifer.
- Barrii: Albatross, Firebrand, Seagull, Firetail (Bath's Flame, Brilliancy and Southern Star are earlier, and many Barriis, as will be noted below, are later).
- Giant Leedsii: Irish Pearl, Silver Fox (Her Grace is rather later).
- Leedsii: Queen of the North and slightly later White Lady.
- Triandrus: Agnes Harvey, Madonna, Undine.
- Cyclamineus: Le Beau. (It seems to me the importance of this group lies entirely in the two early varieties, February Gold and March Sunshine.)
- Jonquilla: Rugulosus, Jonquilla Simplex. Golden Sceptre in this group has perhaps the longest season of any variety in my collection, as the following dates of length of season will show: 1925, April 9 to May 1; 1926, April 26 to May 7; 1927, April 18 to May 8; 1928, April 14 to May 2.
- Double: Holland's Glory, Primrose Phoenix (Twink is rather earlier).

#### LATE MIDSEASON VARIETIES

This extends roughly from April 25th to May 3rd or 4th in average seasons, and is the season of the bulk of the Barrii and Poetaz varieties. But there are a few late trumpets, and Incomparabilis and Leedsii, and a few early Poets.

Barrii: Conspicuous, Glitter, Bonfire, Castile, Harpagon, Expectation, Mountain Pride, Sheba.

Poetaz: Antigone, Cheerfulness, Haemon, Orange Cup (Early Perfection in four years was only once as late as April 24th and the other three years opened about 20th to 23rd).

The following are conspicuous in late midseason because they are about the last of their respective classes:

Trumpet: King of May and Last Out while sometimes starting as early as April 20th have started as late as May 1st. Giant Muticus is still later (and very distinct in form). It will usually open between April 20th and 22nd and last until May 3rd or 4th, the last trumpet to stay in bloom. Herod is my latest bicolor, in five years since 1926 beginning between April 24th and 28th. In White Trumpets Gaza, Driven Snow and White Emperor are about the only ones to continue in good condition two or three days after April 25th.

Incomp.: In ten years Nannie Nunn has only twice started before April 28th, and twice did not begin until May 3rd. Torrid begins between April 21st and 24th but lasts unusually long.

Leedsii: Hera, Mrs. Langtry, White City, St. Olaf. A few later sorts will be noted below.

The following Poets are important because the earliest of their class: Thelma, in ten years has three times opened on April 20th and once on April 19th. Only twice was it as late as May 1st. Glory of Lisse averages about the 24th, usually three or four days after Thelma. Epic, Ornatus and Juliet probably belong with these early Poets and in the general late mid-season daffodils rather than with the late daffodils after May 1st.

#### LATE VARIETIES

The Poets are the chief varieties in bloom in this period. Huon, Inca, Kestrel, Ringdove, Rupert Brooke, Sarpedon, Snow King, Sonata stand out. If weather is cool they may last to the 10th or later but a few hot days hurry them along and spoil them.

The following Daffodils are specially notable at this time because they are the last of their respective classes:

*Barrii*: Rarity is the latest of the yellows: In six years it four times began between May 3rd and only once as early as April 27th. This should prove an important variety for its color at this season. Mrs. Chester J. Hunt is the latest of the White *Barrii* with the possible exception of one or two high priced novelties which have not yet been tested long enough or in large enough quantities to warrant any conclusion. In ten years it only twice started as early as April 24th. Three times it started between April 28th and 30th, and twice after May 3rd.

*Leedsii*: *St. Anthony* is outstandingly late. It began on May 5th in 1932, on April 25th in 1933 and on April 27th in 1934, and its fine substance makes it last a long time even if weather is too hot for other Daffodils. In six years *Mystic* opened once on April 30th, once on May 2nd, once on May 3rd, twice on May 4th and once on May 5th. *Samaria* has almost the same record, but once a day earlier, April 29, and once two days later, May 7th.

#### EXTRA LATE VARIETIES

Two fairly new Poets are to be noted here. *Dactyl* in ten years began once on April 27th and once on April 29th. Its latest date for opening was May 13th and three times it opened between the 7th and 9th. It has wonderful substance and when it is available in quantity at reasonable prices it should prove one of our most useful kinds. *Dulcimer* is a good companion to it and equally late.

How long is the Daffodil season? From March 6th to May 24th measured by extremes. But those dates are in exceptional years and not in the same year. Let's be fair and call it April 1st to May 15th in southeastern Pennsylvania. That's six weeks of glorious sparkling flowers. How much more do you want, anyway?

# Daffodils in Woodland

CARL H. KRIPPENDORF

To one who has the proper site there is no form of gardening which will give such abundant and increasing returns over a number of years, with the minimum of labor, as the naturalizing, or perhaps more correctly, the colonizing of daffodils. Given the proper conditions there is merely the planting of the bulbs and then no more care from ten to fifteen years (I have plantations down twenty or more years which are still giving abundant bloom) except mowing of the weeds, sometime in July or August.

I, personally, have never had much success in planting these bulbs in meadows or orchards as is practiced in England, as our blue grass sod is much too tough for the proper growth or bloom of these bulbs, but in thin to medium woodland in which our spring wild flowers thrive and in any exposure except north the daffodils or at least many of the varieties grow, bloom and increase remarkably, giving more and more bloom and making larger and finer clumps for many years after planting.

They add to the beauty of the woodland from early February when the first green of their foliage comes through the brown leaves on the ground and in late March and through most of the month of April, when one variety after the other comes into bloom by thousands, they make garden pictures which, especially in the late afternoon and in the dusk, are pure poetry.

The bulbs should be planted in broad drifts, being careful not to get them in line so that the clumps will form rows, as this takes away the natural effect entirely and really spoils the whole planting. The edges of this planting should also have a very irregular outline to take away any blocky or formal effect; this is rather more difficult to achieve than it sounds, but if one takes large branches of trees and lays them on the ground and plants around them it will help the inexperienced gardener.

As far as the mechanical means of planting are concerned, we would say there are many gadgets on the market for this purpose and we have tried many of them, with but indifferent success. We find the very best and quickest way to plant the bulbs in woodland is for a man to tie burlap sacks to his knees and then get down on them and plant with an extra strong trowel. Thus equipped a man can plant at least twenty-five hundred a day, and on small replanting stock well over three thousand.

I am often asked how often we divide and replant our daffodils. We have no fixed time. We simply leave them down until they begin to fall off in the amount of bloom, and this time varies greatly in the different plantings. When it does occur we take them up, divide and replant in the fall.

Now, as to the harvesting of the bulbs. If one were to wait until the foliage has ripened it would, of course, be almost impossible to locate the clumps among the undergrowth in the woodland. I know whereof I speak, here, as we tried this method for a number of years. Now we use a very unorthodox method, which is much less labor and which seems to bring just as good results. We await the first soaking rain, after the daffodils have finished blooming, and then we simply pull them up, grasping the entire bunch of leaves in the two hands and pulling them as one would a large



*Daffodils in Mr. Krippendorf's woods, Cincinnati, Ohio*

turnip. If the ground is wet enough the entire plant, bulbs, roots and all, will come up clean. Some years when we are not favored with one of these soaking rains one man loosens the bulbs with a fork while the other pulls; this gives about the same results but, of course, takes twice the labor.

As soon as the clumps are pulled they are set upright in a spot previously prepared in the woodland by simply raking off the dead leaves. The clumps are set upright as closely together as possible, with the foliage kept clean and straight. We often make these beds yards across. As soon as one lot is pulled and placed in these beds we dig a trench around it, about six inches deep, using the earth to cover the outer row of the bulbs, and then leave them without any care whatever until any time after the foliage dries. We usually take up and separate the individual clumps during a dry spell in August and then dry off the bulbs in wire bottomed trays in the shade, where they are left until wanted for planting.

Of course, bulbs grown and harvested under these conditions are small, as we do not dig them until they become too crowded to bloom well, but they do increase mightily, as we have dug *poeticus* clumps containing over two hundred bulbs. Planting these small bulbs so divided gives very little bloom the first spring, but the second spring there should be a fair sprinkling of flowers and quite a good show the third year and after that they keep on getting better and better for a number of years.

Of all the bulbs I have planted in quantity I believe my favorite is Queen of Spain, and this is almost the only trumpet I personally care for, for this purpose. It is of fair increase, wonderful constitution, distinctive coloring and lasts longer in good conditions than any other, and its habit just makes it look as though it belonged wherever planted. J. T. Bennett Poe is very similar, in a much paler shade, but is not quite as good a doer.

For a pale effect late in the season I don't think Mrs. Langtry could be surpassed, as this variety blooms most freely year after year and plantings made twenty years ago still look like snowdrifts in mid April. Just before Mrs. Langtry, Barrii Conspicuous gives a wonderful effect with its long-stemmed pale yellow flowers and red-rimmed cups. This variety, however, must be lifted much sooner than many others, as it seems to run out quicker than the average sort. For early bloom Sir Watkin is an old and tried variety and always gives a good account of itself.

The *poeticus* are among the very best material for this purpose but among these I like *ornatus* least of all. For early bloom I much prefer *poeticus angustifolius praecox*. It is a week earlier and while it is perhaps not as formal in outline as *ornatus* it is much more artistic and of much better substance. Among the mid-season *poeticus*, Cassandra, Horace, Almira and a host of others are all good, and for late the old *poeticus recurvus* is almost indispensable.

I hope these few notes will encourage others to try this picturesque form of gardening, as it is almost sure of success. In the thirty-five years I have grown daffodils under this method I have had only two crop failures; in 1932 we had zero weather when many of the varieties were in full bloom. This destroyed the foliage down below the ground level so that the bulbs did not ripen and there was poor bloom in 1933, but last spring the flowering was better than ever.

# Breeding Daffodils for American Needs

EDWIN C. POWELL

As the American climate, especially that of the eastern United States, is so radically different from that of western Europe, it is not strange that plants developed there do not thrive so well here. It is essential, therefore, to develop varieties of daffodils in the same way that breeders have produced other plants that are adapted to our conditions. Most of the leading varieties of fruits and vegetables have been produced here, also many of the most popular flowers. Horticultural experience covering more than two centuries has shown that many of the best varieties of the old country do not succeed well here. Growers of apples and grapes were the first to learn this.

Daffodil bulbs were imported by the million up to 1926, when Quarantine No. 37 went into effect, as it was cheaper to import than to produce them here. Although millions of daffodils were grown in dooryards and gardens, the trade was largely in florists' stocks for forcing.

American gardeners are becoming increasingly daffodil-conscious and are looking for something better than Emperor, Sir Watkin, Barrii conspicuus, and Ornatus, useful though these varieties have been. The glowing descriptions of novelties in European catalogs are intriguing but, alas, the results of growing the bulbs here are too often disappointing. The plants may prove to be lacking in good constitution and quickly deteriorate or die, or the brilliant reds may fade quickly in our strong sun and drier climate. The answer to the problem of procuring better varieties is to breed and raise those that will be best adapted to American conditions.

American daffodil breeders must use for foundation stock the best of the European originations because very few American-bred varieties are available. Those who have been breeding for ten years or longer have in hand a few varieties that should prove of great value; second- and third-generation progeny will lay the foundation for stocks that are better than now exist.

The breeding of daffodils is rather simple but requires much time and patience, because it takes four years or longer to bring the plant from seed to bloom. But after the first period of waiting the matter of time is largely forgotten, as a new crop of flowers comes on each spring. A dozen to twenty varieties are enough to start with and I cannot do better than mention the list recommended to me by one of the leading breeders of Great Britain: Cleopatra, Yukon, Beersheba, White Emperor, Hospodar, Nissa, Pilgrim, Pilgrimage, Bernardino, Beacon, Fortune, Seraglio, Sunstar, White Sentinel, Mystic, Naxos, Ace of Diamonds, James Hogg. Most of these are within easy reach of the average gardener's pocketbook. Other varieties could be named that are as good and probably better than some of these. Many of the above have proved very useful with me; others are disappointing, which goes to show that varieties act differently here than in Europe. It is important to select for parents varieties that have strong constitution, great vigor and substance, high quality, and are fertile and prolific. Fertility is especially needed in breeding stock and prolificacy in the progeny.



The tools required for breeding are a pair of small tweezers, two or three camel's-hair brushes, some three-inch squares of tinfoil or pill boxes, stringed price tags, and a durable notebook.

Determine in advance what crosses you wish to make. It will be necessary to put up in the fall a few bulbs of late-flowering varieties and bring them into the house in mid-March to secure pollen to use on earlier blooming sorts. As soon as a flower begins to open remove the anthers with the tweezers and, if you wish to use the pollen, lay the anthers on a piece of the tinfoil or in a pill box to dry. In a few hours the pollen will "come up" and the next day it can be covered and will remain viable for three or four weeks if kept in a dry, cool place. Soon after the flower opens the pistil is receptive and pollen of the desired variety should be placed on it with a camel's-hair brush, the point of a pencil or pocket knife, or an anther may be brushed over it. The pistil remains receptive for two or three days in fair weather. The cross should be recorded at once in the notebook and the number of the cross, or the names of the parents, written on a tag and attached to the flower stem to remain until the seed is gathered. Write the name of the female or seed parent first, as Beacon x Fortune.

Watch the seed pods as they ripen and gather them daily just before they are ready to open. Make a record in your notebook of the results. The seed may be planted at once or kept until fall, but should be put in the ground the same year if you would obtain good germination. The admonition of an old English breeder, "out of the pod and into the pot," is worth remembering. I plant the seed of each cross in a flowerpot, covering it a half inch or more deep, and plant up to 20 seeds in a 4-inch pot, up to 40 in a 5-inch pot, etc., and place a durable label with the cross number in the pot. The pots are sunk to the top in a frame and covered with wire netting for protection. A sash placed over the frame when the seedlings begin to appear in February will prevent the alternate freezing and thawing and the resultant heaving and loss of seedlings. The plants are left in the pots for two seasons, after which they should be taken out and the small bulbs planted in the garden. A few will bloom in two years if well grown, many of them in three years, but some require a longer period.

The results should be highly satisfactory if first-class varieties are used as parents. Most of the progeny will be no better than the parents, but there is always the hope, and possibly 1 chance in 500, that an outstanding flower will appear. This is probably as much as can be expected with our present knowledge of genetics. Most of the seedlings should be destroyed after they bloom the second time, but the best should be kept for further testing and a second selection. Seedlings raised from crossing the outstanding plants of this selection should produce daffodils that will be of great value to American gardeners and florists. If pollen of *Jonquilla*, *Cyclamineus*, and *Triandrus* is used a very interesting lot of daffodils suitable for garden culture and decoration will be produced.

## Some Daffodils from an Old Garden

ELLA PORTER MCKINNEY

Collecting reminders of my childhood into this spot of Northern New Jersey, delighting me beyond others, has been a pleasant by-path through a third of a century, wherein many an old time plant or bulb has found a congenial home.

In the early years of my garden a friend brought me a suit-case crammed full of daffodil bulbs from her grandmother's garden in Huntsville, Alabama. The year was about 1904. The bulbs were jumbled because the fork, in mid-summer, had been thrust down here and there where the daffodils were known to be thickest. There, with sweet violets, they edged the vegetable beds; they grew in battalions along the grape trellis and at the foot of walls where Lady Banksia roses and figs were sheltered; into the hawthorne hedges they crowded, and close among the many-stemmed crepe myrtles—everywhere they caught hold until in the spring ten thousand at a single glance was an every day joy in that garden.

I planted my extravagantly generous gift in rows to better further the increase. It took several years to unscramble them. I blush to confess in the pages of this yearbook that I merely segregated them into early, medium and late, caring not at all for botanical identification and happy, only, to see spaces being filled in the garden and bowls overflowing in the house for so long a season of bloom. It did not then occur to me that this collection coming from that old garden was remarkable, an eddy in the stream of horticultural introductions, for new introductions did not, for obvious financial reasons, consort with many Southern gardens throughout the generations closely succeeding the Civil War. I was handling historic horticultural material.

A gardener's mind, however, must grow along with the plants of the garden. In time I came to know that the daffodil blooming in early April, carrying a drooping lemon-white trumpet which turned to white in the house and which we called The Nun was *N. cernuus*. Of course, the *nodding!* My Latin was challenged and in the saddle. Butter and Eggs, or Orange Phoenix, became *N. incomparabilis aurantius plenus*, a name to weigh its head as rainstorms always do. The dainty and charmingly named *Jonquilla* of Linnaeus in its variety *minor* endures my garden but does not love it as it does the Alabama garden. In this collection (and also in my mother's garden in Kentucky) was a two flowered creamy white, yellow-cupped, highly scented, broad foliaged and late blooming type. Because of its shoulder-shrugging habit it never received the attention its rarity merited. Now, established as *N. biflorus* with Bailey's comment, "apparently little known in this country," it is being encouraged to multiply in places other than unregarded fringes.

There is a vigorous and rapidly increasing tall yellow chalice sort that I have not tagged with a name. It suggests the superior (to the modern daffodil collector) Edrin. Its happiness, abundant bloom in any old place, its rapid increase, making many gifts possible to hungry new gar-

dens, its ability to fill bowls and yet keep the garden dancing—these qualities make it an “indispensable” to me, the casual daffodil grower. I like to think of it as a prototype of one that Peter Barr later collected from old English gardens, but I do not know.

For a number of years I thought the early blooming, slender stemmed, narrow leaved *poeticus* in the group was *ornatus*. This was corrected when I saw sweeps of *ornatus* blooming in the garden of a daffodil collector. Coincidentally, Miss Averett, my ever helpful friend, brought to me an excerpt from *Narcissus Poeticus and Its Allies* by H. W. Pugsley, *Journal of Botany Supplement*, 1915. In this I found the following interesting comment: “*Narcissus radiiflorus* seems to have been first clearly distinguished as a wild plant by Koch, who records it for the neighborhood of Trieste and other Austrian localities. . . . It seems to inhabit, also, Servia and Montenegro and probably Bosnia, but the more northern Austrian habitats where it is recorded should probably be referred to *N. stellaris*, with which it has been very generally confused.

As a garden plant *N. radiiflorus* may possibly be the *N. mediopurpureus praecocissimus* of Gerarde, but was unknown to Parkinson and Rae. It was evidently noticed in cultivation by Curtis and was familiar to Salisbury and Haworth, since whose time it was regularly grown in English gardens till in quite recent years it has given place like *N. poeticus* to *N. exertus var. ornatus* and other newer forms. Both in its habitats and in British gardens it flowers in April and its stellate greenish-white flowers are so distinct from those of other cultivated Poet's Narcissi that it certainly should not be banished entirely from our gardens. . . . The variety *ornatus* introduced into cultivation from the south of France by the Paris firm of Vilmorin about the year 1870 is now one of the most important of garden narcissi in Western Europe.

Whether the bulbs in my garden are *N. radiiflorus* or *N. stellaris* I do not know—one or the other, certainly.

The Pheasant's Eye and a fine blooming strain of the gardenia flowered *N. recurvus plenus*, so sweet and so late, finish the season for me and for the collection brought in the big suit-case.

The nearly seventy year old granddaughter of this Alabama garden, when asked the source of the bulbs, replied, “I am strong on tradition even to the point of slight fabrication, but I do not know. They grew in the garden fifty years before I was born. We called them Mistis' flowers because she always looked forward through the winter to the Daffodil time.”

Dr. William Osler memorialized in *An Alabama Student* the young Dr. Bassett, the original owner and grandfather of this garden who scandalized the proprieties of the small aristocratic town by leaving a youthful wife and two small children at home while he went abroad for further study. England was more or less daffodil-minded most certainly during his visit, for Haworth's monograph came in 1831. Now what more appropriate gift to send or bring to a garden-loving young wife than a collection of Daffodils? That is my theory, at least, of how these bulbs came to a cherished Huntsville, Alabama garden which has remained continuously in the possession of a lineal descendant of the Alabama Student.

# In Praise of Old Daffodils

ALFRED BATES

During recent years there has been so much publicity given to the newer—"the modern"—daffodils with their brilliant coloring, splendid texture, increased size and perfect form that a novice starting out upon the delightful adventure of daffodil growing would be quite apt to confine his attention to these newer hybrids only. Yet by so doing he would miss many of the most charming and loveliest flowers in this genus and never really know that spritely, airy grace which endeared this flower to the poets from Shakespeare and Herrick to Wordsworth.

We are too prone to forget the earlier hybrids—the parents and grandparents of our modern flower—in our admiration of and wonder at the products of the last twenty years; and are inclined to pay too great a tribute to the "bigger and better" slogan of our present life without counting our losses in the deal. Much as I admire the magnificence of the stately newer varieties, none that I have seen has so far ousted any of my old favorites from their place in my affection; for I feel that many have traded charm for splendor, and too much red barter away the characteristic gleam of the flower for grandeur. For after all the daffodil is a soft and tender effulgence of nature in springtime, in yellows, creams and whites, and too great a predominance of red tends to harden that happy burst of gentle glory.

There is a fluttering blitheness, an airy charm, a gay daintiness to these older flowers which the newer, larger and more solid ones do not possess. Then too, I have a sentimental regard for the flowers which endeared themselves to me in my childhood; a sincere belief that old flowers are like old friends, old books and old wine. I have a profound conviction that a flower once truly loved is worthy of eternal affection and can not be cast off as a wornout garment which has lost its usefulness; and feel that we owe a certain debt to these old varieties which have been the stepping stones to our modern wonders which can only be paid by continuing to cherish them; and I heartily endorse Mr. Bowles' plea, "It would be a great pity if these links in the chain of development were allowed to disappear altogether." The time may come when, sated with the size, the bright color, waxy texture of the present and future developments, flower lovers will be searching the countryside to discover and reclaim what they can of these old-time daffodils just as when the taste in tulips turned in the last quarter of the past century the old cast-offs were eagerly sought for in cottage gardens.

It is no easy task to make a list of the best liked varieties of one's favorite flower. It is a heartrending task to be compelled to leave out this or that—and checking and rechecking only makes matters worse. So, as gardening is the finest game the human race plays, let us make a game of this effort to name the best liked from a galaxy where none are disliked. Supposing then that my fairy godmother—whoever she may be—tells me that she will give me a new garden with every part of it just as I wanted it to be save only that, because daffodils have always been my favorite flower, I could have fifty varieties only; and they must be either all from among those which I

now grow and not introduced after 1914 or all of later introduction; without any hesitancy I should decide upon taking the earlier varieties. Then I should haggle with her and finally, as it is all a game where we make our own rules, convince her that it would be only fair that beside the fifty varieties—she said varieties, not I—I should also have all the species, subspecies and natural hybrids which are procurable. Now just which would I feel that I could not possibly do without?

Beginning with the yellow trumpets, the first without a doubt would be *Cornelia* (van Waveren, 1905) which, without another doubt, would be among a select dozen were I so restricted; because she is so profuse a bloomer, is of such goodly size and of so soft and even a yellow, with her broad, smooth perianth and delightfully expanded trumpet, and makes so splendid a showing in the garden. Then would come *King Alfred* (Kendall, 1899), for with a heavy soil and rich diet he is still a variety to conjure with and in England still successfully competes with the newer hybrids; the deep rich chrome yellow of both perianth and trumpet and the luxurious curve of his trumpet are always a joy to me. I always feel a pang of regret when I recall that the raiser never lived to see the perfectly wonderful flower he had produced. *Golden Spur* (Dutch origin, 1889), with his even coloring of bright yellow, would be next; not only because of his earliness but also for his graceful poise. Then *Glory of Leiden* (de Graaff, 1887), with his fine golden yellow trumpet which gleams so pleasantly against a paler perianth of primrose yellow rayed with straw color; his is a bold fine flower making a splendid show in the garden and so beautiful for cutting.

Among the white trumpets I would name *Loveliness* (de Graaff, 1907) first; in fact, she would also rank first in my sacred dozen. I can not recall having ever read anything in her praise—or blame either, of which she has none. She is an exceptionally refined flower of quite snowy whiteness with bold stiff perianth segments, broad and smooth, and a long, very straight trumpet which suddenly expands slightly at the mouth, giving her a most delightful delicacy. Planted in full sun where the roots of some small tree or shrub will keep her dry in summer and against which she must struggle for her food, she should prove to be one of the choicest daffodils in any collection; and with blue grape hyacinths beneath her makes a delicious garden picture. *Alice Knights* (Barr, 1905) comes next, not only because of her earliness but for her heavy blooming even when she has become overcrowded. Her flower is not large but the grace of the white perianth segments with their charming slight twist and the creamy-white trumpet so beautifully recurving at the rim gives her an airy, lithesome delicacy which is so lacking in the larger whites. Then comes *Peter Barr* (Barr, 1902), with his deep blue-green foliage and massive, bold blossoms of pure white campanulate perianth and large, solid-looking trumpet of deep ivory; there is only one point against him and that is his short stature; a few more inches to his stem and he would be much nearer perfection. One could hardly do without *W. P. Milner* (Backhouse, 1890), who is too well known to need description. Just why he should be classed as a white trumpet I can never understand, for his dainty, graceful flowers are no nearer a white than a sulphur-yellow. I am torn between *Mrs. Ernest H. Krelage* (Krelage, 1912) and

*Mrs. Thompson* (\_\_\_\_\_, 1890), and it is a very uneven contest between big and little, for the former is a magnificent flower in all senses of the word with a firm, smooth, overlapping perianth of soft creamy white and a splendidly rolled mouth to the trumpet of soft primrose which, in spite of catalog descriptions, does not fade into white—and I like her none the less for not fading; while *Mrs. Thompson*, poor dear, is quite a small and simple flower with a less substantial perianth of pure white and a rather long, slender trumpet of pale lemon yellow which does very often fade into a white which is almost as pure as that of the perianth. But she is so happy a plant and does so well in adverse conditions that I love her as much for her making the best of things as for the delightful grace of her delicate flowers—and shall, after all, include them both. If I remember correctly, the catalogs of my childhood always added to her description “of excellent constitution” and she was always the only “white” to be so praised.

For bicolor trumpets I have no very great love; why I do not know, for I do like the bicolors in the other sections and would adore a white trumpet against a yellow perianth. So my list would be short and starts with what probably no one else would want—*Apricot* (de Graaff, 1898). Now *Apricot* very much belies her name in not being apricot at all; but I am very fond of her narrow, rather flaring, creamy white segments which guard her straight, long, narrow primrose trumpet which varies and deepens in color according to weather and does sometimes achieve a queer, lovely glow to the inside of her trumpet which an artistic imagination might term apricot. But with all her disappointments I so love the soft, loose flower to place among sprays of pink crab blossoms or *Prunus triloba* that I cannot leave her out. Then *Glory of Noordwijk* (de Groot, 1902), who is so nearly not a bicolor but a yellow that I cannot but like him; his large, handsome, rich yellow trumpet with beautifully reflexed mouth sits so engagingly upon the overlapping pale sulphur-yellow perianth segments, each of which has a bar of deeper color down its center, that he is a delight to behold. And my heart warms to *Spring Glory* (de Groot, 1914), bicolor though she be; for she is such a pert, darling hussy with her lovely clean white, spreading perianth and long, saucy yellow trumpet so beautifully frilled at the lovely roll at the rim. A large and brave flower in all kinds of weather and another variety which has the power to go on strongly blooming without frequent lifting.

Of *Incomparabilis* varieties I could never have enough, and my heart-strings—whatever they are—will be torn within me in the making of this list. They are the Peerless Daffodils of old English cottage lore and I like that name so much better than the current one even though I cannot change it; but woe be to anyone who calls them “Incomps,” for he is soon shown the rear exit to my garden and so passes swiftly out of my regard. Of the wholly yellow group none can rival *Homespun* (Engleheart, 1907) in my affection because I fell in love with him when I first saw his portrait in Jacob’s Daffodil Book many years ago and that love has been lasting. He also comes into the list of the first dozen, for to me he is a perfectly formed flower with an exquisitely lovely cup; then he is such a bright sunny fellow with those broad, overlapping, shining petals of his around that deep and delightfully frilled crown of rich, rich yellow. He is especially charming growing out of a ground cover of small and dark leaved ivy. *Gloria Mundi*

(Backhouse, 1887) is another first love from Jacob's book; but either the picture flattered or my love was fickle—love is like that even with daffodils—so although I do not include her among that peerless dozen I still do care enough to keep her in a larger list. Her blossom is large and handsome and she makes a pleasing mass of color in the garden with her rich yellow perianth and large open cup of deeper tone heavily stained toward the edge with an orange tinge, never with me the orange-scarlet of English catalogs. *Beauty* (Backhouse, 1889) would have to be admitted if only for the lovely beam of soft yellow down the center of each sulphur-yellow perianth segment; but beside that she has a large bright yellow cup which is so nicely edged with soft orange. The fluttery, starry flowers of *Frank Miles* (Leeds, 1890) are delightful both in the garden where they dance about like golden butterflies and for bringing indoors; the graceful, twisted, soft, clean yellow segments of the perianth which give him so starry a shape and the refined, dainty cup of the same clear yellow make him a flower which should not be lost to cultivation.

Of bicolor Peerless varieties *Whitewell* (Moey, 1910) not only enters this list but is also among the delectable dozen because of his sheer loveliness and the abandon of his flowering; his broad, overlapping, fine creamy white perianth has such a charming poise with, as Bowles has said, "its three ears forward and three back," and he was also the first to call attention to, and to love, the way those three forward segments cast shadows on the backward ones; and he carries so beautiful and so yellow, shaded almost to soft copper, a cup which is large and open and of such exquisite form that I cannot conceive of any future flower surpassing him in my affection. Then there is *Bernardino* (Worsley, 1907), who still holds his own among the influx of the "supers" and so needs no description. *Lemon Drop* (Engleheart, 1907), with her soft white perianth of almond-shaped, overlapping segments and deep lemon cup of most refined and lovely proportions makes an excellent flower for cutting as well as a delight in the garden. *Bedouin* (J. P. Williams, 1908) must be included for his fine substance, the splendid shape of his blossom and his coloring—against a glossy and gleaming white perianth is a beautifully expanded cup of deep, deep yellow which is almost always broadly edged with reddish orange.

The *Barrii* division has produced so many brilliant and wonderful flowers in these past twenty years that most of its old highlights are now almost forgotten. How can we ever be without *Barrii Conspicuous* (Backhouse, 1886), with its cheerful, happy, yellow blossoms; once it was a top-notch and now only used for naturalizing, yet a goodly clump in the border is still hard to beat. *Glitter* (Engleheart, 1907) is also among those in my best dozen; she is a smallish, beautifully formed flower of gleaming golden yellow perianth with a slightly deeper cup—deeper in color because she should have an edge of brilliant orange-red which our American spring usually does all it can to prevent materializing; she is one of the nicest daffodils for a small vase and is most charming when planted in front of a mahonia hedge where its golden stars gleam out against the metallic greens and bronzy purples of the shrub. I am still unashamed to love *Blood Orange* (Engleheart, 1907); planted in the shade of a lilac he has a soft reddish glow in his cup which is really quite worthy of his name; and I take great delight in his longish segments of lemon

yellow, a deep creamy lemon which is just the right contrast for his open cup of sunflower yellow tinged more or less deeply, as our spring allows, with orange.

Among the Barrii bicolors *Incognita* (Engleheart, 1902) comes into both lists if only for his charming flat crown; but he also has such a snowy perianth of lovely almond-shaped segments against which is set that well expanded and fluted corona of apricot-orange which blends so charmingly with the white that even the seeker after modern wonders must surely be entranced. I must admit that our hot sun fades the color a bit, but in light shade it bears up well. *Cardinal* (Engleheart, 1907) also comes into both lists; his long and well formed creamy white segments encircle a nicely shaped, largish cup of yellowish orange which in the late afternoon sunshine does have a glowing, if not a red, glow which, while nothing like what a cardinal's robe should be, is nevertheless delightful. He is not a large blossom but is so exquisitely proportioned that, unless I have a very lop-sided daffodil eye, I cannot understand why he has escaped notice. I am still weak enough and old-fashioned to like and to want *Albatross* (Engleheart, 1891) and *Seagull* (Engleheart, 1895), and furthermore I insist that they are both desirable plants for the garden. Coming from the same seed-pod, my simple heart always likes to see them planted near each other so I may point out their differences. The former is a fine large flower of broad white perianth and nicely frilled pale, very pale, lemony yellow cup which has just a line of bright orange at the edge and soon faded; she is a little taller than her sister and is later to bloom; Seagull's foliage is of a bluer green and her broad white perianth carries a dainty cup of canary yellow whose brim has a faint and wondrously lovely line of apricot when it first opens.

In the Leedsii section first place is given to *Maid of Athens* (Engleheart, 1914), but she has so close a second in *Mermaid* (Crosfoeld, 1907) that both of them gain entrance into the select dozen. I cannot recall of ever having seen either of them praised and do not understand the omission, for they are both beautiful flowers of goodly substances, profuse bloomers over a long period and have blue-green foliage which delightfully sets off their lovely pearly flowers. The sea-maid is first to bloom; she carries large well formed blossoms of snowy whiteness with broad, smooth, overlapping segments which come rather suddenly to a pointed tip, giving a somewhat starry effect to an otherwise round flower and a big, nicely frilled creamy lemon cup which has a delicate roll at the rim and slowly passes into white. Her land-sister has rather similar coloring but the petals flare back slightly and are alternately broad and narrower, while her more globular cup of sulphur-white boasts of a very narrow edge of buff yellow which in cool season is of a most fascinating tint of buff-orange. Then, the old and almost forgotten *Mrs. Langtry* (Backhouse, 1890) whose white open perianth and soon fading pale primrose cup so endeared her to the gardeners of the past, and although her popularity has waned her beauty is still the same. *Salmonetta* (Engleheart, 1907) still charms me and in some seasons really has a salmon tone which is most exquisite; her perianth of white is rather open because of the long, loose, oval segments but makes a fine background for the longish, beautifully fluted cup of soft and delicate near-apricot-orange. The one fault is that she has so thin a texture, but she combines delightfully with her neigh-



bors, *Phlox divaricata* and *Aquilegia flabellata nana alba*, all growing happily under the young bronzy foliage of a Jacotte rose. I still hold dearly to *Duchess of Westminster* (Backhouse, 1886) because she is such a hearty bloomer under even the most trying conditions and also for the starry sprightliness of her soft white blossoms with long canary yellow cups which finally fade into an ivory white so delightfully poised over her blue-green foliage. *Lord Kitchener* (Mrs. Backhouse, 1905) is still so well known no description is needed, and I hope he will long continue to be. But *Ariadne* (Engleheart, 1904), like her namesake, has been abandoned by the fickle public to her sorrow and the public's shame; she makes so delightful a garden picture with those large saucer-shaped coronas of deep ivory and wide white petals that one should always grow her. Place must be given *Evangeline* (Engleheart, 1908) whom I am glad to say is still listed in many catalogs; she is a stately flower of good form and color, the broad white perianth is smooth and substantial and her large, open cup of rich citron yellow is beautifully proportioned.

Very few of the oldest triandrus hybrids are still obtainable, so we should hold onto those we have as best we can. *J. T. Bennett-Poe* (Engleheart, 1904), with his delightful flowers of creamy perianth and straight, primrose yellow trumpet is truly a lovely flower worthy of any garden. And a beautiful companion to him is *Agnes Harvey* (Spurrel, 1902) a most exquisite flower of pure white with a delightful, slight reflex to the petals as though they meant to hold themselves away from the globular white cup lest they hide some of its beauty. Planted against a dark evergreen such as *Berberis verruculosa*, her pale flowers fairly dazzle one with their crystalline glory.

When we come to the Cyclamineus hybrids the date of introduction bars me from claiming any and I will have to be content with the species—it is a small group anyway.

Of Jonquil hybrids I could rave forever, for they are of so strong and bright a yellow, so very shapely, so long lasting and so very fragrant. *Buttercup* (Engleheart, 1890), with its large, massive, rich golden flowers is often still listed, so needs no longer a description. But *Orange Queen* (Cartwright & Goodwin, 1908) is seldom seen; she is of an even deeper, richer yellow with a delightfully flat perianth and a rather funnel-shaped shallow and prettily fluted cup a shade or so deeper in tone than the perianth and she always carries two or three flowers. *Golden Sceptre* (de Graaff, 1914) is too well known to need any praise from me; beside being in this list she would also be in my dozen of must-haves.

*Alsace* (van der Schoot & Son, 1907) is so pleasing to me that she also gains admittance into that best liked dozen, for she has so large and so refined an individual flower which, being only three or four on the stem, are not crowded as so many of her over opulent cousins are. Her perianth is of so glistening a white and so firm and pert in its poise that the wide open cups of mellow, soft yellow with their thin edges of orange show out against the whiteness most entrancingly; then too her fragrance is specially pleasing to me. *Elvira* (van der Schoot & Son, 1904) is rather similar but, as she comes into flower a little later, I feel that I must include her too; she is much taller and her broad white perianth carries a cup of brighter yellow with a

flush at the brim of orange-red which lights up her head of three or four flowers with a gentle glow. *Klondyke* (van der Schoot & Son, 1907) is included because of his fine and showy head of as many as seven or eight blossoms of bright yellow, paler in perianth than in cup, but holding that orangish tinge so splendidly in the sun that I can forgive him his mass production in each head of bloom, especially as his individual flowers are not as large as those of the other two.

Among the poets I must have *Horace* (Engleheart, 1907)—as I write the name of the raiser and the date of introduction I notice what a goodly number in this list has been introduced in 1907 and also how many of them we owe to that grand old master of daffodils, the Reverend George Herbert Engleheart who has also given us the most glorious of modern flowers, *Beersheba*; but in this case the date must certainly be wrong for *Horace* was mentioned by Bourne in his *Book of the Daffodil* which was published in 1903. However and whenever *Horace* first bowed to the public he is still worthy of entry into any select group and with me ranks among the first twelve. He is one of the first of the poets to come into blossom and is so clean and crisp in the contrast of snowy white, beautifully rounded perianth and large bright yellow eye, so deeply margined with scarlet as to be almost wholly red that I feel I should always want him no matter what new ones may come my way. *Cassandra* (Engleheart, 1899) closely follows *Horace* in flowering and in my regard; she is rather similar in blossom save that she has a smaller eye of yellow with a deep rich rim of dark red. *Glory of Lisse* (J. Segers, 1907) comes into bloom still later and with his large, gleaming and snowy white perianth with a distinct midrib down each segment which gives such a delightful effect of solidity to the flower and his rich orange yellow eye with bright red rim closes the season; or at least marks the approach of its end.

And this brings us to the doubles. It is a good thing they come last, for my choice of them is bound to be received with scorn. To curry favor with the elect in the daffodil world I shall list *Argent* (Engleheart, 1907—again!) first, for I delight in her lovely, star-shaped, loosely double flowers of pale creamy whiteness in the centers of which are mixed the soft yellow fragments of what would have been her corona had she decided to be merely single; then she is so good a garden plant and so delightful for cutting. *Primrose Phoenix* (....., 1902) comes into this list because of his staunch faithfulness; never has he failed to carry on with stiff upstanding stems bearing massive flowers of deep primrose yellow; of all the old Phoenix tribe he—I am sure the Phoenix was masculine—is the best, the most perfect rose-type, with his six whorls of well formed perianth segments; but with all his perfection he cannot lure me away from those earlier Phoenixes whose English cottage growers took to their hearts and called endearing names after foodstuffs—what greater distinction could a peasant confer than to name a flower after something to eat. So down upon my list go the rest of that old alluring group whose introduction is lost, save for the vague, half mythical date of Codlins and Cream—*Sulphur Phoenix* (....., 1890), for in spite of the R. H. S. Daffodil Check List I am sure that he must have come into being long before that date. I only regret that my stock of adjectives has been so badly overworked that nothing remains save “elegant,”

which I would never insult a daffodil by applying it to; so I can only say that his blossoms are lovely full roses of white and cream. *Eggs and Bacon*—what a delightfully homely name for a flower—Orange Phoenix is so much more dignified but cannot possibly conjure up the picture of all that simple country-wife affection which the former name does. I should hate to be without his large, heavy—sometimes so very heavy that he gets soiled in the rain—head of soft white multiplied petals which as they multiply get mixed up with the already mixed up coronal fragments of rich reddish orange until the whole becomes a glorious rose of color. I am always so very sorry for *Butter and Eggs*—Golden Phoenix—for he starts out so bravely and tries so hard to stand upright but, like some humans under flattery, the wind and the rain and the sun are quite too much for him and sooner or later his great rose-shaped flowers of yellow and orange topple over into the mire—unless one goes to his rescue with twigs and twine.

I pause; and the dear old lady who was half asleep, being more interested in pumpkin-coaches and glass slippers, snaps out, "But you have named more than fifty." "Oh, yes," I reply, "as a baker's dozen is really thirteen, you, in your fairy-hood, are not less generous than a mere baker; so you see I am entitled to fifty-four and I haven't asked for that many. Beside when you come to see me in the spring and the garden is in all its gentle beauty of yellows and creams you will regret that I had not begged for more old-fashioned daffodils." And she being of "the stuff as dreams are made of" will gently smile and say, "Perhaps I shall—perhaps I shall;—old fashions, old women, old daffodils."

# Growing Miniature Daffodils

MARY BROWN STEWART

Dwarf forms of the narcissus comprise the *triandrus* and *cyclamineus* classes; the miniature trumpet group, mostly yellows as *minor* and *minimus* but including some that are white; the tiny rush-leaved *juncifolius*; the *bulbocodium* or "hoop-petticoat" group and a few others.

For propagating we divide into two classes, those propagating by bulb offsets and those that must be increased by seed.

The varieties that produce bulb offsets are grown with reference to securing increase as are other daffodils that require careful attention as to location, storage, etc., because of the small size and lack of extreme hardiness. Late planting of these is recommended. The autumn top growth which they all hasten to start with the first cool moisture of autumn renders them susceptible to grave injury by winter cold, unless protected by cold or otherwise. Sharp freezing followed by sunshine and cold is their greatest danger.

*Bulbocodium conspicuus* is of this class making vegetative increase, but *bulbocodium citrinus* must be grown from seed; and *minimus* unlike most of the miniature trumpets makes no offsets and so must also be grown from seed, which is true as well of the *cyclamineus* and *triandrus* groups.

The seed must be saved daily after the first capsules are found to be opening. We scatter it at once on flats of sifted, baked soil, giving a light covering of the baked soil after all are gathered and sown. The flats are placed where they will get the benefit of freezing weather, if any, the following winter, lacking which a week in cold storage is recommended.

Most of the seed will germinate the first year and the soil should be kept moist until the tiny grass-like leaves ripen off. Then add an inch of rather compact soil and in the autumn place the flats in a trench so that their surface will be a little below the level of the surrounding soil and protect from severe freezing. The degree of frost needed to help the germination of seed might injure or even kill the tiny bulbs if too much exposed.

After two years the little bulbs may be sifted out and planted in beds or rows. Soil for these must of course have good drainage and be of such a texture as to settle firmly about the small bulbs, not too light and at all times free from weeds and grass.

We practice deeper planting than is sometimes recommended, say three inches for small bulbs and four to six inches when they are older and larger.

A light sifting of bone meal or balanced fertilizer in the autumn and over that a good layer of sifted leaf mold or peat into which is well mixed about twenty per cent of *well-rotted* cow manure will furnish a welcome plant food by the third year and will also protect from winter cold and retain moisture during summer heat.

Some of the small hybrids like W. P. Milner, Queen of Spain, Thalia, February Gold and the like are quite as valuable as the species and their forms.

# A Daffodil Parade in Michigan

FLORENCE EDNA FOOTE

When I was introduced to a certain landscape architect, as a "daffodil-specialist," he said, "Oh, but daffodils don't do well in Michigan!" I said, "Have you ever tried to grow them *well* in your Michigan garden?" And he confessed, "No, but I have been told that our winters are too severe."

Many statements just as silly and false are made by so-called garden authorities (some even dare to write books) who are too much inclined to accept hearsay for fact or are too lazy to do the actual experimental work upon which to base truthful statements.

The bunch-flowered polyanthus and tazetta varieties originally came from the warmer countries and can only be grown in our warmer climates or under glass culture or in our warm houses, but the great majority of our popular garden varieties are the hardiest of all bulbs. Several times, when re-arranging my garden plantings in the fall, a shovelful of naturalized narcissus bulbs have been thrown aside and carelessly left unplanted and invariably I would find them sprouting and sending out flower buds with the first warm rays of the sun.

After all, this hardness of daffodils is not surprising, for somewhere their ancestry goes back to those wild species which grow so defiantly and spread up and down the sides of great mountain ranges, often reaching altitudes of two, three and even four thousand feet, gallantly enduring cold, storm and wind.

No, certain varieties of narcissus fail us, not because of climatic conditions, but because of this wild inheritance of wandering freedom,—refusing the neighborhood of their over-fed civilized sisters. And I am just as sure that any other failure in growing healthy daffodils comes from too rich a daily diet (which encourages any disease) and improper soil preparation. Plenty of leaf-mold, plenty of sharp sand mixed with loose garden soil, together with perfectly free drainage are the three absolute essentials for healthy bulb life. If these essentials are provided, plantations will thrive and spread and live for generations of man.

Of the older standard sorts of daffodils which for twenty-five years and more have thrived on our place and spread like wildlings are Mme. de Graaff, Alice Knights, Duchess of Westminster, Evangeline, Frank Miles, Albatross, Autocrat, Bath's Flame and many others,—but dear me! if you could only see the lusty patches of the sweet early white Mermaid and Mascotte and Poeticus Juliet spreading happily under the dainty sprays of the overhanging larches and Japanese flowering cherry trees you would love them as I do.

The little miniature species are, strangely enough, the first to brave the still cold spring days and as I lift off the slight winter mulch I am always surprised and delighted to find hundreds of tiny 3" high *minus*, 5" *nanus*, 6" *lobularis* and 7" *minor* all budded and blooming, making a gallant parade all through a whole month until the tiny little white species make their appearance.

As a gracious gift on our wedding anniversary April twentieth, the first of the larger daffodils to bloom in my own garden is always my lovely Leedsii "Good Morning," which remains in bloom for nearly three weeks. It is one of Rev. Engleheart's originations (1930) and I do not know its parentage but it is of the same breed which produced the heavy substance and grand quality of his better known Kantara and Tenedos. The next day opens the lovely yellow trumpet Hebron (Brodie of Brodie, 1927) and then two other tall and stately grand yellow trumpets, Alfred Hartley and Edgar Thurston, both of Engleheart's raising (1930).

Gardeners used to think that the yellow trumpet varieties were hardier than the whites, but the years have proved that such varieties as Mme. de Graaff and Mrs. E. H. Krelage among the older whites are perhaps even hardier or at least just as hardy. Among the newer white trumpets having a strong constitution, I am sure of White Emperor, Eskimo, Kantara and Beersheba. I find that Beersheba likes to be left alone without lifting every year and last year I was thrilled by the beauty of a hundred flowers of crystalline whiteness, not so large as those shown on the R. H. S. show tables but having just as fine quality and substance. All four of these white trumpets are rapid increasers and to my own fancy lovelier than any yellow trumpet.

Another real treasure is the bicolor trumpet Moira O'Neill (Engleheart, 1923)—a tall stately aristocrat with wax-like white perianth and soft, creamy, lemon-yellow trumpet—so lovely that it makes every visitor pause to enjoy its beauty and strength.

Among the incomparabilis section are many lovely things that have come to make a permanent home with me. First to mention is Pilgrimage, not only because it is fine but because it has become plentiful enough so that the price is no more than that paid for a good rose. Pilgrimage is a grand garden variety and a fine show flower. Seen even at a distance, its clear clean yellow color is very striking, the tall 18" to 20" stems erect and strong. It multiplies fast and flowers freely.

Carlton is a larger flower of a lovely soft clear self-yellow color and excellent quality. It also multiplies freely and, when it becomes more plentiful, will be very popular. It is a little taller than Pilgrimage (about 22") and opens a day or so later, about April 24.

Havelock is another of Mr. P. D. Williams' grand all-yellow incomparabilis introductions—a perfect show and garden flower with a vigorous healthy constitution. Quite unlike the gorgeous and now fairly well-known Fortune is Killigrew with its smooth pure yellow perianth and deep rich tangerine-orange frilled cup—a superb flower borne on a tall stiff stem. This variety has done very well indeed.

Damson is quite a decorative flower of paler yellow with a long cup of dark solid red which suggests a fuchsia blossom. The stem is long and slightly drooping, but the variety seems to grow more and more vigorous every year and is a grand increaser. I like it very much indeed.

Tolvan is another variety with a most vigorous constitution and has a white perianth and a long narrow cup of solid bright red, a gorgeous and striking flower. Tolvan and the more expensive Red Abbott hold their color the best of any red-cups I have seen.

It makes me very happy to say that after growing Coverack Perfection for four years it has more than warranted the first prediction I made of its superb quality. I was genuinely attracted to it as a show flower of unique and distinctive beauty when first shown in London in 1930. It has flourished and multiplied so freely that now I can recommend it most heartily as a garden variety as well.

Mitylene and Fortune are its parents and it certainly inherits their fine qualities. The perianth of Coverack Perfection is of palest primrose, the segments broad and overlapping, in shape like Mitylene. The crown instantly reminds one of a morning glory, painted deep primrose shading to cool green in the center and banded at the edge with a soft salmon-colored frill. The flowers have such substance that, though they open with the first of my daffodils (about April 20), they are among the last to go.

So far, St. Egwin, a Giant Barrii, stands alone in its class—a pure soft yellow throughout, of the heaviest substance and smoothest texture imaginable—a noble flower that probably will never be excelled. Since it also has a grand constitution and increases well, it will some day make a permanent home in our gardens. St. Egwin in the yellow section and Hades in the red and white are two unbeatable flowers. Therapia, Aleppo, Coverack Gem, Forfar, Galata, Mr. Jinks, Sunstar have all proven grand varieties of good strong constitution.

I have had remarkable success with many of the pink-toned and buff-toned Leedsii (among them Easter Morn, Colonial Gown, Florence Edna Foote, Good Morning, Riva, Suda, Fanny Currey) and find they are just as robust as the white Leedsii, which, by the way, have proven themselves to be quite the strongest growing of all classes of daffodils (such as Gracious, Mitylene and Tenedos, which seem to possess a super-abundance of vitality).

Our one disadvantage here is that our spring comes with such a rush that all of a sudden buds swell and flowers unfold so fast that every hour is crowded with its new delights. So far, I have never had enough time to enjoy to the full the first half-hundred of the earlier varieties. After the first two weeks the red-cups begin to open, then I can draw a deeper breath and really settle down to enjoy them.

And so the parade beginning with the tiny miniatures goes on for more than two whole months, ending with the Poets and then the orchid-like Triandrus hybrids, bidding a last sweet farewell with broad-leaved big lusty Silver Chimes and the dainty little miniature Leedsii Addio. Then way down deep in my heart comes the feeling common to all great lovers that "Parting is such sweet sorrow."

# Daffodils in West Virginia

MRS. H. A. BARBEE

As West Virginia was originally a part of the mother state of Virginia, many of the early settlers migrating westward over the mountains brought with them manners, customs and flowers from their eastern homes, accounting perhaps for the ancient varieties of Daffodils found in many old gardens, probably imported by the colonists from England. Even today may be seen the early Spurius, or Trumpet Major, Van Sion, Phoenix varieties, Poeticus, Biflorus, and various little jonquil types. The modern gardener has discarded many of these, unless his grounds are extensive enough to give space for naturalizing; but I should be very sorry not to have the little early trumpet which I have always used as a spring date in my garden book, as it is quite interesting to turn back and see the different days when the first bloom is recorded. Neither can I imagine my garden without the brave little jonquils which begin to come up in the early winter and bloom so long in the spring.

My first acquaintance with Daffodils dates back to 1885, when as a small child I was attracted by the old Emperor and Empress in my father's garden and, some twenty years later, when my own garden was started, these two were among my first purchases, as a loving tribute to a real gardener. After that, for years new varieties were added, mostly from the catalogues of the Dutch growers around New York, such enormous sums as two dollars each being paid for various bulbs! Then I began to write to people whose names had appeared in garden magazines or bulletins from the Department of Agriculture.

And here I wish to digress for a moment to pay tribute to the wonderful kindness and interest of these flower experts for their patient and painstaking replies to the queries of one much below them in horticultural knowledge and from the hinterlands far removed from their spheres of activity. After many years I can only recall one letter which did not send forth the spirit of helpfulness and good will.

In 1931 in some way I came across the variety John Evelyn and remember quite well after writing a check for ten dollars. I recorded the transaction, as usual, in my garden book, but carefully put the amount in cipher, which I had used on other occasions to cover up wild extravagances, lest some chance inspection might cause me to be classed as one needing financial supervision! Having seen the same bulb offered two years later for forty cents, I consoled myself, as I glanced over that page, by saying, "Oh well, one must live and learn" and also congratulated myself for having resisted the efforts of another dealer, who offered the same bulb for eighteen dollars and bade me purchase in hot haste, since soon it would be twenty dollars. I do not record all this to be funny, but rather to show the difficulties which beset the pursuit of the daffodil.

Having recently been appointed Chairman of the Daffodil Committee for the Garden Club of West Virginia, with a view to investigating the status of this flower in the state, I have discovered that it is not easy to



locate collections of more than a few varieties. Replies to some thirty questionnaires brought in little information not already in my possession.

It would seem that the varieties most commonly planted are the results of the energy and foresight of the Dutch commercial firms in this country. Had it not been for these, probably even fewer Daffodils would be seen in our gardens. One cannot but feel a keen regret, however, that no one seems to have been equally interested, commercially, in distributing the newer varieties produced by hybridists of Great Britain and Ireland. Even such well established flowers as Beersheba, Mitylene and Tenedos are almost never seen in commercial lists. It was encouraging last year to see Mitylene in one catalogue, priced at even a little less than is asked for it abroad. One can only hope that before long other fine varieties, not the newest, of course, will be within the reach of people of moderate means.

Our survey showed that the Daffodils usually planted were those advertised in the catalogues of the large and established nurseries in the United States. In a very few places were found such varieties as Beersheba, Mrs. R. O. Backhouse, Mitylene, Tenedos, Firetail and John Evelyn.

One garden includes a more advanced collection, with such flowers as Dawson City, Golden Flag, Beersheba, Moira O'Neil, Carbineer, Red Abbot, Aviemore, Copper Bowl, Garibaldi, Pilgrimage, Nissa, Sunstar, Pinkeen, Fanny Currey, Gracious, Riva, Mitylene, Tenedos, Silver Salver, Sameria, Solleret, Golden Goblet, Glorious, Medusa, Dactyl, Raeburn, Hersham Glory, Huon, Narrabi, Ian Secrett, Sagacity, Winnie Weeden, Ace of Diamonds, Mary Copeland, Holland's Glory.

We hope this year to see more flower shows devoted to Daffodils. Last year three exhibitions were given, one by Mr. Freme Rohrbough of Buchannon, who showed such varieties as G. H. Van Waveren, John Farquhar, Robert Sydenham, Whistler, Treasure, Beersheba, Mrs. R. O. Backhouse, Mrs. Ernest H. Krelage, Aeolus, Bernardino, Croesus, John Evelyn, President Viger, Red Cross, Firetail, Bath's Flame, Masterpiece, Crystal Queen, Her Grace, Lord Kitchener, Mitylene, Phyllida, Admiration, Cheerfulness, Orange Cup, Scarlet Gem, Horace, Thelma, Twink, Silver Rose and many others.

The writer also gave an exhibition in Huntington, with such varieties as Golden Flag, Dawson City, Beersheba, Mrs. Ernest H. Krelage, Pilgrimage, Nissa, Mrs. John Hoog, John Evelyn, Red Cross, Wheel of Fortune, Festive, Croesus, Alcida, Nanny Nunn, Firetail, Masterpiece, Diana Kasner, Sunstar, Arion, Mitylene, Tenedos, Gracious, Hera, Mrs. Nette O'Melveny, Delaware, Lord Kitchener, Mystic, Stateliness, Admiration, Orange Cup, Medusa, Cassandra, Horace, Dulcimer, Edwina, Rupert Brooke, Ace of Diamonds, Thalia, Lady Hillingdon, Numa Pompilius, Tullus Hostilius, White Wedgwood, Mary Copeland, Holland's Glory, Twink. A lecture on "The History of Daffodils" accompanied the exhibit. At White Sulphur Springs Daffodils were also shown during the season by a New York florist.

# Daffodil Culture in Virginia

MARY MCD. BEIRNE

Few, if any, states in the Union have so many divisions and sub-divisions as the Old Dominion in the matter of soil and climate. In Virginia the distribution of these areas has been based more on political conditions than on those pertaining to their geographical and horticultural interests.

From the Daffodil point of view, however, the great Tidewater area is traced as running from the Atlantic Ocean and Chesapeake Bay up the falls of our principal rivers—the Potomac at Washington, the Rappahannock at Fredericksburg, the James (or should I say in old Virginia language “The Jeems”?) at Richmond, and the Appomattox at Petersburg. This Tidewater area naturally includes the Eastern Shore.

Next in geographical succession comes Midland Virginia, in which my Daffodils are grown, but which sometimes is not accorded a division or even sub-division by the politicians. Yet it is distinctly different in climate and soil from Tidewater on the east and the great plateau we call Piedmont on the west. Of the latter section, Albemarle, Orange and Loudoun are representative counties. Beyond we have the Blue Ridge and on the other side of that range of mountains stretches the world famous Valley of Virginia. Just where the Valley of Virginia or (as our Commissioner of Agriculture chooses to call it) the “Great Valley” ends is not quite clear.

Some contend that it extends from the Potomac to the James, the Blue Ridge on its eastern boundary, the Alleghenies on the west. Others, notably my friends in Roanoke, say “It just picks itself up” there in Rockbridge County and keeps right on through seven adjoining counties to the Tennessee border. But all parties agree that the Daffodils grown in this mountainous country owe their beauty and vigor to the splendid fertility of the soil in that honored section.

Beyond the Great Valley, and let us admit for the Daffodil’s sake that it extends from Winchester to Bristol, there are the Alleghenies: mountains distinctly different from the Blue Ridge, a limestone soil predominating but with frequent appearances of slate and chalky deposits on the one hand with soils fed by freestone waters on the other.

So between our Tidewater and the western mountain extremity, Virginia may be said to offer a delectable choice both in the matter of soil and climate to the prospective Daffodil grower of today.

In Tidewater, the Counties of Mathews and Gloucester have long been famous for commercial Daffodil production. Dr. David Griffiths, U. S. Department of Agriculture, reports from that section: “A plenty of low-lying, moist, well drained sandy silt loam, with reasonably good natural fertility.” What more ideal conditions could any one wish for the cultivation of this delightful flower?

Although understood, as a matter of record, that the Daffodil is a plant adaptable to a variety of localities in Virginia, it would be difficult to select any one of them as “the best” for the development of this popular flower.

Individual ingenuity and care play an important part in its cultural

perfection. But it is interesting to note that fine enough flowers have been exhibited from different sections to prove the versatility of the species *Narcissus* within the state.

When balmy breezes are blowing Daffodil buds into flower down in Princess Anne County, bordering the historic Dismal Swamp, these first flowers of spring are still sleeping under a warm white blanket in the snow-capped Alleghenies of our western state boundary.

So it is plainly seen that no special formula for growing Daffodils in one portion of Virginia can be handed on for practical application in any other. Each individual must work out his own salvation according to his soil and learn to practice the safeguard of resourceful planning.

My own experience in Daffodil culture has been in a section which has for centuries been known as "The Slashes of Hanover," whose very name bespeaks the poverty of the soil. Yet it produced those finest types of Americans, Patrick Henry and Henry Clay: A challenge for the production of the finest Daffodils!

Failure of course played a part during the early years of my inexperience. But gradually valuable lessons were learned. A system of canals was finally completed which lowered the water table below the depth at which all bulbs are planted.

From a small beginning, the stock increased to many acres, including some of the finest European introductions. Several colonies of hand-crossed hybrid seedlings also ultimately resulted.

For the encouragement of the beginner let it be said that from this modest but determined pioneer effort, where the land is historically poor and the drainage notoriously bad, the present craze for Daffodil culture in Virginia was *born*.

As with the proverbial spark, it has been fanned by the feverish activity of garden club amateurs into a flame that is spreading with bewildering rapidity to the farthest corners of the state.

# The Narcissi of Old Virginia Gardens

LENA L. FORSYTH

A love of horticulture seems natural to Virginians, as we must realize when we visit the old gardens of this state where our ancestors, under such difficulties, brought shrubs and evergreens, roots and seeds, from their old homes to reestablish them amid new surroundings. There must have been little leisure at first, with few exceptions, to devote to these transplanted treasures, and the struggle for survival was as severe a test of the vitality of the plants as of the strength of the men and women themselves. I think perhaps nothing repaid their efforts more than the cherished bulbs that seemed to take kindly to just such climatic and soil conditions as Virginia had ready to offer.

It seems absurd to speak of our bulbs as "old" varieties when one reads of Narcissi being found in Egyptian tombs and of their being used by the Greeks in ceremonial processions. However, it is possible that our *Narcissus biflorus*, so common that it is considered a native wildling by many, may itself have been in use in those ancient days. It is believed to be a hybrid of the old *N. tazetta* and *N. poeticus*, and has certainly the family traits of the tazetta with an added touch of hardiness and a later-blooming quality given by the poeticus. We call it, locally, "Husband and Wife," as the two blooms to a stalk are the invariable rule, the name being given in the time of our grandmothers, when the metaphor was more appropriate than it is now perhaps. A more euphonious name to use is Primrose peerless, and it is called this by Grey in the botany we studied in our old time school days. I have seen whole fields white with these narcissi where plows had divided and scattered the bulbs which still persisted and where the farmers had been the ones to give up the fight and leave the flowers in command of the field. I have also seen wagon loads brought into the markets in Richmond to be sold in bunches by the women who had their stalls along the sidewalks.

The single poeticus of our old gardens, generally called Pheasant's eye though sometimes simply Poet's narcissus, blooms earlier than *N. biflorus* and may be single on the stalk or carry two blossoms. It has not the same spreading quality but will stay established if not too roughly used, though the bloom may deteriorate with neglect. It will respond gratefully, however, to division and cultivation when rediscovered and taken care of.

The double poeticus, *alba plena odorata* of the catalogues, is very fastidious in its tastes. Over feeding produces marvelous foliage and multiplicity of bulblets but reduces to a minimum the quantities of blooms. On the other hand, too dry a situation or damp feet will destroy it entirely. A compromise must be found of good drainage along with enough moisture and a fairly light soil with a proper amount of food value to produce the much longed for Gardenia-like blossoms. One special value of this type is the lateness of the season in which they blossom, as they come after all but the *N. biflorus* have disappeared for the year. This connects the two varieties

in my mind and I believe the *alba plena* to be derived from the biflorus and the poeticus.

The other group of old time Narcissi in Virginia is early blooming and of the kind generally called daffodils. The yellow trumpet ones come into blossom sometimes early in February. These are small and often called "Buttercups" by the old people. I feel quite sure they must originally have been developed from the old double yellow of the Von Sion type, as they undoubtedly revert to the more or less greenish yellow ones of that kind still to be found in old graveyards and in the yards of deserted homes. These are not unpleasing to my eyes, and by transplanting and care I have achieved a rather lovely result that must be similar to the original type. There are some lovely double yellow ones with just enough green to make a trimming that are still to be found and treasured by the appreciative few.

The little white Swan's neck only waits to be sure that the February sun has taken some of the chill out of the inevitable winds of this season before it too unfolds its trumpet. The petticoat is immaculate and the trumpet either pure white also or of such a pale lemon color that it soon fades to the same purity. This is the rarest and most treasured of our old-fashioned daffodils. There may be others that closely resemble it, but here in Virginia we like to believe that it is unique and that it pines away when taken elsewhere. Otherwise why should it not be plentiful in other states? Surely not because we have over-rated its beauty and it is not desired!

I mustn't neglect to mention the little true Jonquil of these same forsaken gardens. The bright yellow blossoms and reedlike foliage of this dainty member of the narcissus family is to be found now in all the beautiful surroundings of well kept lawns and borders, but it raises its head just as gracefully and proudly in the corner of the cabin yard where one hundred years or more ago it was brought from "Mistis'" garden and planted with loving care.

# The Behavior of the Daffodil in Southern California

KENYON L. REYNOLDS

It must be admitted that Southern California, at least that part of it not directly adjacent to the ocean, does not provide ideal conditions for growing daffodils. However, results can be obtained with them which amply justify their use in every garden and make them worthy subjects for the hobbyist or amateur collector and hybridizer.

We have to be satisfied with somewhat smaller flowers than those produced by the same varieties in more favored localities. Furthermore, the lasting quality of the individual bloom is hampered by our usual dry, warm spring weather. We read with envy the accounts of English growers sending specimens to a show after guarding them in their gardens for two weeks after the flower has opened. The total life of a flower with us from first open to faded ranges from four days to an extreme maximum of two weeks. The average is probably seven days. Records kept for several years of the total blooming period of over two hundred varieties shows an average of twenty days from the first opening to the fading of the last flower. The extreme maximum blooming period was the Jonquilla hybrid Golden Scepter, which bloomed for eight weeks in 1932 from February 12th to April 10th. A long blooming period is characteristic of all the varieties of this group. This makes them doubly appreciated in our gardens.

One item concerning blooming period which will seem strange to those unfamiliar with Southern California spring weather is that the greatest life of bloom is found in the latest varieties. This is due to the "high fogs" which are characteristic of the last one-third of our daffodil season. The first of our regular "Spring" daffodils, February Gold and King Alfred open normally during the first week of February. The season ends with Alcida, Moonshine, Orange Ophelia, Pandora, Red Shadow and Solon about May 15th. During February, March and early April our normal weather is "fair and warmer," sometimes reaching eighty degrees. However, during late April and all of May the sun is usually obscured for more than half of the day, not by rain clouds, but by what is literally a high fog. This fog is usually dissipated before mid-afternoon, but it makes the average day more to the liking of daffodils than that provided for the earlier varieties.

Another item of interest is our extreme variation of blooming season. Every locality has its late and early seasons, but here certain varieties seem occasionally to completely shift their order with respect to other varieties. This is of particular interest to the hybridizer who is continually on the lookout for opportunities to steal an unexpected cross between early and late varieties.

Probably the greatest handicap of the Southern California daffodil fancier is in the matter of color, particularly among the red-cupped varieties. Almost invariably those varieties described as having a cup of

solid red to the base are disappointing when bloomed here for the first time. Nor is this entirely a matter of too optimistic catalogue description. The writer has selected many varieties from flowers seen growing in Oregon or British Columbia. When the bulbs were flowered here it was sometimes the form alone which assured one that it was the same variety. Lady Kestive is a heart-breaking example of this characteristic. In Oregon it has one of the most intense solid red cups the writer has seen. Bloomed here it is very ordinary, with little substance and only a thin red edge to the cup. The same is true of Sunstar, Delhi, Eclair, Isidoor and others. Fortune blooms here with only a trace of that coppery gold which normally makes it one of the richest of all daffodils. Fortunately, however, there are many exceptions and our problem seems to be to patiently try out the reds produced elsewhere and, working with those which are most successful, to try to breed varieties better suited to our conditions. The Southern California grower who can produce a sun proof red may feel assured that it will stand up wherever daffodils are grown. This is at least a good proving ground for color.

Among those varieties having red or rosy orange in their coloring there are some which do not tend to fade to white but rather intensify their color and hold it till the flower is almost dry. The best example of this is Perfecta. This flower has an inordinately large flat crown which blooms even here with a solid color of tomato red and holds this color till the perianth is completely faded. Other varieties which hold their color well here are Aleppo, Artegal, Bertha Aten, Calorama, Dick Wellband, Fiery Monarch, Folly, Galopin, Linkboy, Ottawa, Red Abbot, Roman Star, Strabo, Walter Evans, Francisca Drake, Gallipoli and Little John.

There are very many varieties and some whole classes which find our conditions sufficiently congenial to maintain themselves year after year in good health, giving consistently good flowers and satisfactory increase under proper cultural conditions. Probably the most consistently successful entire group is Division 8, the Tazettas. Many of these are really fall bloomers here. Tazetta papyraceus or Paper White sometimes appears in October and this year they were over by January 1st. Our mild winter makes their cultivation very easy.

Almost equally good as a group and more interesting to the average gardener and collector is the Leedsii division. Most of the varieties of this division succeed well, as do many of the white trumpets. Their characteristic thick flower substance makes their blooms last longer than any but the Jonquilla Hybrids. Some of the most successful of these are Tunis, Silver Star, Mrs. Nette O'Melveny, Sirdar, Delaware, Arion, Gertie Millar, Her Grace, Cicely, Fairy Circle, Honesty, Mitylene, Mrs. R. O. Backhouse, Lovenest, Suda. It will be noted that this list includes some having pink or apricot coloring in their crowns. This coloring shares the fate of the red in this climate, but its variation seems to be more a seasonal matter than the latter color.

Unexpectedly, the poets succeed very well here, particularly when planted in heavy soil and left several years without lifting. This is still more interesting when it is noted that among the Barrii varieties, those having the most poeticus blood seem to have the weakest constitution with

us. *Ornatus maximus* can be depended on for a fine display of healthy, long stemmed flowers for six or seven years in one place. Snow King is another poet which is exceptionally vigorous here. Other successful varieties are Chaucer, Edwina, Epic, Walter Evans, Caedmon and Raeburn.

Many of the yellow and bicolor trumpets seem to lose ground here. King Alfred is better when renewed every two or three years with fresh bulbs grown elsewhere. Some of the more successful trumpets are Aero-lite, Van Waveren's Giant, Tresserve.

The constitution of the *Incomparabilis* and *Barrii* varieties cannot be depended upon as a group as much as some of the others. This is possibly due to the fact that these groups include varieties having the greatest mixing of blood lines. Some of the "old timers" like Albatross and Seagull succeed well year after year, but many of the novelties are disappointing at first, though they may eventually become thoroughly acclimatized.

The *Triandrus* hybrids are rather difficult to grow here. However, they nearly all survive for a few years and their excellence deserves for them continual renewing when it is necessary.

Most of our *Jonquilla* hybrids are very successful. Their increase is prodigious and this offsets their tendency to be rather susceptible to mosaic diseases which makes much thinning necessary at times.

These notes may serve to show that while Southern California can not be called the home of the daffodil still its performance here will always encourage its enthusiasts.

## Daffodils in British Columbia

DR. C. T. HILTON

The climate of British Columbia, at least on Vancouver Island and the lower mainland, is probably as near ideal for growing daffodils as any that can be found. On the coast, the mild winters and abundant moisture in the ground during the growing period, followed by an early spring, and then a dry, hot summer to ripen the bulbs, provide just the proper conditions to get good and early flowers, and preparations for the next year's display. Farther inland, the colder winters retard the flowering and the foliage, and stems are not so tall, but the moisture is there in the spring, and the hot ripening period in the summer as well.

Commercially, daffodil growing is in its infancy and they are grown mostly for the cut flower trade. The southern end of Vancouver Island is the leading district in this industry and hundreds of thousands of blooms are packed and sent to the Prairies—in some cases traveling one thousand miles to their destination. In favorable seasons shipping begins about the end of February while the prairie country is still in the grip of winter, and the light yellow trumpets brighten up many a home months before any local flowers can be picked. The shipping lasts from three or four weeks until the early varieties are all over. The great majority of the bulbs for



the cut flower trade are the early older trumpet varieties, with a few early *Incomparabilis*. This industry was started over twenty years ago by Dr. Edwards, who had been in the same business in the Scilly Isles and who imported a ton of the early varieties. As their varieties are for early bloom and are now surpassed by better, new varieties, there is not much sale of bulbs to the garden grower. A few enthusiasts have started small bulb farms, with newer and better varieties, but as yet the local demand is not enough to warrant any investment on a larger scale. There is a limited market for some of the new and higher priced bulbs. As yet no one has more than 150 to 200 varieties, which may seem a small selection out of the thousands that are advertised in Europe. But many of them are too much alike and over-rated, and the selection represented in British Columbia Gardens is good and includes varieties like *Festive*, *Askelon*, *Seraglio*, *Tredore*, *Beersheba*, *Tenedos*, *Riva*, *Ace of Diamonds*, *Glorious*, *Royalist*, *Mitylene*, *Mystic*, *Silver Salver*, *Aviomore*, *Bokhara*, *Killigrew*, *Mephisto*, *Elsbeth*, *Sincerity*, *Bulwark*, *Sorley Boy*, *Carmel*, *Damson*, *Folly*, etc. In my own garden, which is situated near the middle of Vancouver Island, we usually get rather more rain than is necessary in the winter but, as the drainage is good, the bulbs do not suffer, though one year a sudden hard frost coming on the top of a very mild wet spell, which had brought up the daffodils, produced rather a curious result. The ground was so wet that the frost pushed up icicles from below and raised five or six inches of the top soil as a crust about six inches high. The daffodil shoots were caught in this crust and cut off and, when the thaw came, daffodil leaves about six inches long were lying on the ground; later flowers came up looking very naked, with short, cut off leaves only three or four inches long. The well rooted daffodil bulbs stayed in the soil and were not damaged, but many tulips were caught in the top crust and lifted up their roots. Not being so strong, they were torn out and the bulbs then rotted. The winter of 1933 and '34 was very mild here and the daffodils were up early and the first flowers out in March, and all were over before the end of April—even sorts that usually do not start flowering until May. This winter, so far, has been mild and, at the time of writing, January 12, a great many shoots are up above the ground. The soil, which is moderately heavy, red loam, with clay and hard pan below, seems to be very suitable and the daffodils grow good sized bulbs and increase rapidly. On the whole, the trumpets, being as a rule early, do best and last the longest; later when the red-cupped and rimmed *Incomparabilis* and *Barrii* varieties come out, it is getting hot and they soon fade when shaded or cut and taken indoors. Experiments have been made to try and keep the blooms in cold storage, and the season can be prolonged three weeks or more by this method. The flowers seem to do best when cut just after the buds have burst and been placed in a container with just a little water in them. They are then placed in cold storage just above freezing point and will keep there for three weeks. They should be taken out 24 to 36 hours before being wanted, to let them expand fully, but they do not last very long after coming into the warmth.

Raising daffodils from seed is very interesting and exciting work, but also demands patience, as it is not until the little bulbs are four years old that any flowers may be expected, and then the flower will be small; but

it will be possible to judge what the flower, when fully developed, will be like, and so if it does not come up to standard, it may be discarded. Not all will flower in their fourth year, and it may be six years before all the batch will have shown what they can do. It is necessary to set a high standard in judging new seedlings, or else one's garden soon gets filled up with inferior blooms and, being one's own children, it is quite a struggle to harden one's heart and throw out all the poor ones. In raising seedlings, it is well to know what you desire in the progeny and to pick the parents accordingly. It is important to have at least one parent with good smooth texture and regular even form, and it is useless to raise seedlings from the older and poorer varieties, as the professional raisers are already several generations ahead of them. One oldish variety which is still used and which has given many good varieties, crossed with good and newer ones, is Beacon, a Barrii of good form though small and with perianth segments rather pointed. Used as a seed parent it has given many outstanding varieties such as Copper Bowl, Clava, Aviemore, Varna, etc. In crossing daffodils it is necessary to have the pollen dry and the stigma should be in a receptive state. This is shown by the surface being covered with a sticky exudate which retains the pollen until the pollen tubes can grow out. A very ingenious and useful method has been communicated to me by Mr. Pierson of New Zealand, who is raising many seedlings every year. He takes an empty gelatin capsule, such as is used by drug stores for dispensing powders. In this he places an anther before the pollen is shed. When this happens the inside of the capsule is coated with pollen. He then places one-half of the capsule over the stigma of the flower he wishes to pollinate, and pushes it down so that the pollen comes in contact with the stigma. This cap can then be left on, and will protect against any chance of being cross pollinated by insects, and as the capsule can be put on before the stigma is ready, and can be left there, it saves a lot of trouble. The pollen will keep quite well until the stigma is ready. He has kept pollen in this way for weeks, and has even had pollen sent from England to New Zealand in this way with good results.

The seed should be collected as soon as the pods turn yellow and begin to crack at the top, and should be sown soon to get the quickest germination.

I have tried X-raying daffodil seed to see if I could get faster growth and cut down the waiting time. It seems to help germination and the seedlings come up in the fall a few weeks after sowing. But the little bulbs when planted out this year after the two years in their seed boxes were no bigger than non X-rayed ones, and will not flower before 1936. So no time has been gained, though perhaps a better and more even germination was secured. Whether the X-raying will result in new freaks in colors or not will not be known until 1936 or later.

Personally, I do not admire very large daffodils unless accompanied by good form and substance, long stems and clear colors. Many very large flowers are coarse and rough and unfortunately Will Scarlett, which has given rise to many good red cups, has also passed on its poor reflexed perianth, and so spoiled the result in many cases. Good substance in the perianth of trumpets is what I would like to get, and if I could get the substance and thickness of the trumpet into the perianth, I would be very pleased. But, so

far, I have not gotten what I want. My ideal Leedsii has yet to flower also. It must be tall, with broad overlapping segments of the perianth, flat and of good substance, and with a shallow cup or crown, with a rosy or apricot flush, deepening towards the rim to give a little warmth to the flower. The green eyed ones are beautiful, but cold looking. Many of the species of daffodil are very dainty and are useful in the rock garden. *Narcissus cyclamineus* is a small long trumpet, with reflexed perianth on a stem about six inches long. It likes a shady, moist spot and is a very light yellow. *N. triandrus albus*, commonly known as Angel's Tears, is a very beautiful one also, with several flowers on a stem with globular cups and slightly reflexed perianth on a stem twelve inches tall. This variety has very potent pollen and crossed with garden varieties gives white or creamy flowers. I have some very dainty seedlings from its pollen, but often they are not of good constitution and soon die out. *Narcissus minimus* is a tiny trumpet daffodil on a stem some three or four inches high. Queen of Spain, a natural hybrid, and Bennett-Poe are two more neat and graceful dwarfs for rock garden planting.

Daffodils thrive here in all sorts of positions. I have them under fruit trees, where they get no sun once the trees leaf out; in grass in full sun; in borders, some with about full sun and some in half shade, and they all seem to grow well. Those in the borders are usually lifted and divided every third year and after that the bulbs get too crowded and the flowers small. The red cupped ones are best planted in a partly shaded spot, as their color will last longer. Firetail, one of the older Barrii, with creamy perianth and deep red crown, makes a wonderful patch, but unfortunately it rarely produces pollen or sets seed. I have some nice big smooth yellow trumpet seedlings but they lack the substance I want in the perianth. Some of the white trumpets are very tall and have fine trumpets, but none so far have a smooth regular perianth.

I am very fond of King Alfred. It is tall and a good size. There is a graceful twist in three of its perianth segments, which is very attractive.

Askelon flowered for the first time last season and promises to be very good when established. Bokhara is a nice orange red-cupped Incomparabilis and is reliable and early. Killigrew is another very fine and tall one, but later. Seraglio is a fine big Barrii, and I have seed of it and of others from its pollen. My own seedling, Albern Beauty, a Leedsii, also gave me some seed last season. It is usually about the last to flower, and I have not been able to keep pollen and get results from it before, but now I hope to be following Mr. Pierson's plan. It is very tall—twenty-four to thirty inch stems—sweet scented, and late. I got the Award of Merit from the Royal Horticultural Society for these qualities. I believe so far it is the only American variety to gain the award.

Other sorts that did well were Beersheba, Quartz, White Emperor, and Eskimo—white trumpets; King of the North, Sorley Boy and Royalist in the yellow trumpets; Golden Pedestal, Pilgrimage, Nissa, Aviemore in the Incomparabilis; Mitylene and Riva of the Giant Leedsii, and Fairy Circle of the smaller Leedsii—the latter a very dainty little flower; Elspeth, Mephisto, Sunstar and Tredore—Barriis.

# Some Up-to-Date British Daffodils

GUY L. WILSON

In view of the well nigh bewildering and ever increasing number of names in the Royal Horticultural Society's classified list of Daffodil names, it may be of service to note what seem to be a few of the more meritorious and outstanding flowers seen at English Shows in the past few seasons.

With so much material now available, it is only to be expected that lovers of Daffodils, whether they want them merely for their private enjoyment in their gardens or for exhibiting at spring shows, will ever become more discriminating as to the qualities of new additions to their collections: good balance, clear coloring and firm smooth texture will receive due consideration, as well as length of stem and vigor of constitution.

Beginning with Yellow Trumpets, great improvements in color and smoothness have been achieved since the days of Van Waveren's Giant, Olympia, etc. For splendor of color, Crocus, raised by Mr. P. D. Williams, is unbeaten; it is of the deepest and most intense pure dark gold throughout and has also fine form and most durable texture. A much cheaper but still little known flower of equally intense golden color also raised by Mr. P. D. Williams is Charles I. It is later to open than Crocus, and has a longer and narrower trumpet, but is nevertheless quite a shapely flower and most telling on the show bench. Of distinct and most attractive soft sulphur color are Moongold and Sulphur Prince, the latter raised by the Brodie of Brodie; both are flowers of fine form and finish, the mouth of the trumpet in each being beautifully rolled back while the petals are very broad and clean cut and the texture is exceedingly firm and waxy; Sulphur Prince is the taller plant and is endowed with extraordinary vigor, freedom of bloom and increase. Elgin, also from the Brodie, will appeal to those who like a big flower; it is early and of a fine deep rich self golden color, and in spite of size has excellent form and quality. Three of the very best trumpets I have myself raised up to date are Clommel, Knockboy and Principal. Clommel is a well nigh perfect flower of large size, most beautiful form and finish, soft clear self yellow and of satin smooth texture. Knockboy is a brother seedling of splendid form and great substance and considerably later to bloom. Principal, another splendid self yellow, has very broad flat smooth perianth and well balanced trumpet; it is a tall grower of great strength and vigor.

Coming to White Trumpets, it must be admitted that Beersheba and White Emperor, in this country at all events, are hard to beat. Eskimo is not so well known as it deserves. It is not a large flower, but has very neat form and firm texture. It opens with a pale primrose trumpet and soon bleaches in the sun to snowy white. Its sturdy and very free blooming habit makes it an ideal garden plant. Slemish, of my own raising, was in 1933 awarded the medal as the best flower in the London Show. It is indeed a perfect show flower somewhat better balanced than Beersheba, being slightly shorter in the crown; it is also ahead of Beersheba in the purity of its icy whiteness, the beauty of which is enhanced by gleams of cold sea green at the base of the segments where they join the trumpet. Tain must also be reckoned as at the

high water mark among the newest whites. It is later to open than Slemish and is perhaps the purest self white I have yet seen. It opens without a trace of color, a big broad petalled flower of fine symmetry and great substance that promises to be a good garden variety, as it is a most sturdy and vigorous plant. Scapa is also an aristocrat of the show bench, combining size with the most perfect form, balance and texture. Samite is a seedling from the well known and beautiful Mrs. Ernst Krelage and is an ivory or milk-toned self of thick, velvet-smooth texture and loveliest form and balance; while Kanchenjunga is a giant which astonishes by its great size and amazing breadth of petal, the latter balancing the boldly flanged wide mouthed trumpet.

I think British raisers have given scarcely so much attention to bicolors as they have to yellows and whites; there are, nevertheless, some very good ones, none better perhaps than the Brodie's Carmel, whose geometrical perfection of form could not be excelled for show purposes. I am told it does not thrive equally well everywhere, but it is now comparatively low in price. Mr. J. L. Richardson's Ballyferis has velvet smooth perianth segments of exceptional breadth, while Sincerity, which is later to bloom, is quite faultless in form, finish and texture. It never comes rough and has the always attractive feature of a well and evenly rolled flange to its trumpet. For those who like a strongly contrasted flower Effective, of my own raising, may be mentioned, with trumpet of a clear and brilliant yellow.

The Giant Leedsii, Division IV A, according to the Royal Horticultural Society's classification, are a popular branch of the family. They have special attractiveness of form and proportion with the added virtues of robust and vigorous constitution. Those who do not know White Nile and Marmora should lose no time in making their acquaintance, for more perfectly beautiful flowers would be difficult to imagine, and their cost is within reach of the most modest purse. For those who want something newer, Niphetos, Tregantle and Brunswick, all sent out by that prince of raisers, Mr. P. D. Williams of Cornwall, are well worth attention. Niphetos is a superb show flower of the most perfect symmetry, smoothness and substance, its very broad ace-of-spade shaped, pure white perianth segments are quite flat, and the creamy crown is beautifully frilled. It is a sturdy plant of good carriage, free of increase and bloom, and thus excellent for the garden as well as exhibition. Tregantle is a taller and later flower, very large and perfectly symmetrical with stiff flat widespread milk white perianth and a pale primrose crown that is somewhat shorter than most Giant Leedsii varieties. Brunswick is a very early flower that has astounding powers of lasting and is so lovely that one wishes it would last forever. It is gracefully posed on a tall strong stem; the clear white perianth is beautifully modelled, clean cut and flat, the crown is just the right width for perfect balance and is like a short flanged and frilled trumpet, clear white in the base, gradually shading up to sharp greeny lemon at the brim; charmingly cool and dainty coloring, a real aristocrat in every way. Two new flowers of my own that were much admired at last year's London Show are Glenarm, a very large early pure self white leedsii, whose pollen parent is Tenedos; it is not as tall as Tenedos; the flower is of better form, with a better frilled and rather more expanded crown. Carnlough is a sturdy plant carrying a large flower of fine firm very smooth texture; the perianth is white and the long crown on first open-

ing pale citron with a most charming soft pink frill exactly like that of the once popular Evelyn Hemus Sweet Pea; like most of these rather elusive but enchanting tints, the pink color is most in evidence in good seasons. Oslo, of which I saw the very small stock last April in the garden of its raiser, Mr. A. M. Wilson, will, if it continues to thrive, undoubtedly be one of the great flowers of the future. It is a noble pure white flower of splendid carriage, ideal form and great substance, with large broad flat perianth and bowl-shaped cup. It looked immensely strong and vigorous, perfect in fact alike for show, market or garden.

I take a particular pleasure in raising a few of the very late small-crowned Leedsii (Class IV B), of which Mystic was one of the first, not only for their ethereal beauty, but because they usually come when the rush of shows is over and one has a little more time to enjoy them. Cushendall is my best green eye up to date. It is a perfect little gem with faultless perianth of sparkling Poeticus white; the very shallow almost flat eye is frilled with cream, the whole center being lovely moss green. Columbine is typical of the dainty and exquisite colorings one gets in this class. It has broad slightly waved pure Poeticus white perianth and a flat eye of pale grey green edged with a well defined rim of orange cerise.

So many are the splendid and brilliant flowers among the newer red-cupped Incomparabilis that it is difficult to choose. Diolite has the merit of distinctness as well as high quality and great beauty. It is very large with great widespread soft clear yellow perianth of lovely quality; the clear yellow crown is of medium size and is edged with a clean band of orange red. Marksman is a neat stiff flower of great durability and astonishing intensity of color; the flat perianth is clear full golden yellow, while the crown is of an intense fiery orange red that glows like a furnace. Carbineer has been awarded the coveted First Class Certificate; a fine size flower of splendid carriage and great substance with broad flat rich yellow perianth and cup some seasons deeply edged and others fully stained deep bright orange red. Porthilly is tall, of good size and lovely form, with smooth yellow perianth and open well frilled cup of startling vivid uniform orange crimson, one of the most brilliant of all. Rustum Pasha, a large flower whose pointed petals are clear golden, has a crown that opens rather a dull greenish orange and deepens to the richest tangerine, and does not fade in the sun, this attribute being a great and welcome advance. Penquite has a deep golden perianth of great breadth of substance and expanded deep coppery red crown, while Fairy King is an entirely delightful and brilliant jewel, not large, but most perfectly modelled and glorious in color, with symmetrical bright golden perianth and intensely glowing hot orange scarlet cup. Cheerio is of quite a different type, with its immensely broad circular soft yellow perianth almost as thick as cardboard and wide shallow rich orange crown; it is tall and very vigorous and might be described as an earlier and very much enlarged and glorified Croesus.

Of the self yellows we should never tire, and they should certainly not be lost sight of amid the galaxy of bright cups. Of these I think Havelock is a great flower that will remain long in favor. It has great size, first class quality, grand form and splendid carriage, and is a splendid garden plant. Trenoon, still a very small stock, is the most gorgeously deep and intense dark

gold, a glorious color and a large flower of great substance. I don't think it likes cold climates, but may do well in the more genial ones. The beautiful bicolors, Nissa and Bodilly, leave little to be desired. A more recent one is Larne, of my own raising, which is almost a borderline flower between bicolor trumpet and incomparabilis; it has very broad flat pointed pure white segments of much substance and a well flanged short trumpet crown of clear bright lemon yellow; a splendid clear colored show flower and a sturdy grower with broad foliage.

Coming to the Barrii, St. Egwin will for many years be indispensable for those who want the best. It is one of the most beautiful and distinct flowers Mr. P. D. Williams has ever raised, a very large soft clear self yellow of loveliest tone, lovely form and superlative quality, and a very strong tall and noble plant. Good red and yellow Barrii have been scarce up to date, so Market Merry, a really splendid flower raised by the Brodie of Brodie, supplies a long felt want. It is large, with broad rich yellow perianth and shallow vivid deep red cup; it is tall, and earlier than most of this section. Cordova, from the same raiser, blooms considerably later; it is very large, with smooth circular primrose perianth of immense breadth and crown richly stained red—a magnificent flower. In Mr. Jinks the Brodie has given us one of the best white-petalled varieties yet seen; it is not large, but perfectly symmetrical, with flat rounded perianth of great breadth and crinkled cup of bright rosy orange. In the same famous raiser's garden I was immensely struck by Blinkbonny, which is the most striking bit of red and white I have yet seen, the perianth snow white while the cup is deep brilliant almost blood red. For those who admire the rimmed type of eye, Lidcot is a fine flower with large pure white perianth and a pale citron crown rimmed with a broad band of bright rosy red; and Anthem, raised by Mr. F. Herbert Chapman, brings us very near to the Poets. It is very late, flowering along with the Poets. It has the very dark rimmed little *Poeticus* Linnaeus for one of its ancestors and is the finest of its descendants that Mr. Chapman has sent out. It is a most striking and very large flower fully 4 inches across with smooth thick ivory white perianth and flat yellow eye banded with dark crimson.

I think the Poets only show their best form in comparatively cool and late climates. For those who can grow them, Smyrna, raised by the Brodie of Brodie, is perhaps the finest of the solid red-eyed type up to date. It is a good-sized flower with broad circular snow white perianth of fine substance and vivid orange scarlet eye. Thomas Hardy, of my own raising, has a perfectly circular and symmetrical snow white perianth of smoothest texture and a solid dark red eye of deeper tint than that of Smyrna, and Cantabile, one of my loveliest children, a seedling from Dactyl, is the most beautiful green eyed Poet I have seen. It has a perfectly formed perianth of the purest sparkling frosty white and a large eye, deep green in the center, shading paler towards the narrow deep red rim. It must be remembered that to preserve the jewel like beauty of their eye coloring, Poets must be cut and brought indoors to a cool shady room as soon as the petals burst apart. The green coloring fades as rapidly in strong sunshine as does the red. Those who have never thus developed some of their Poet blooms in the cool and shade do not really know just how beautiful they can be.

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