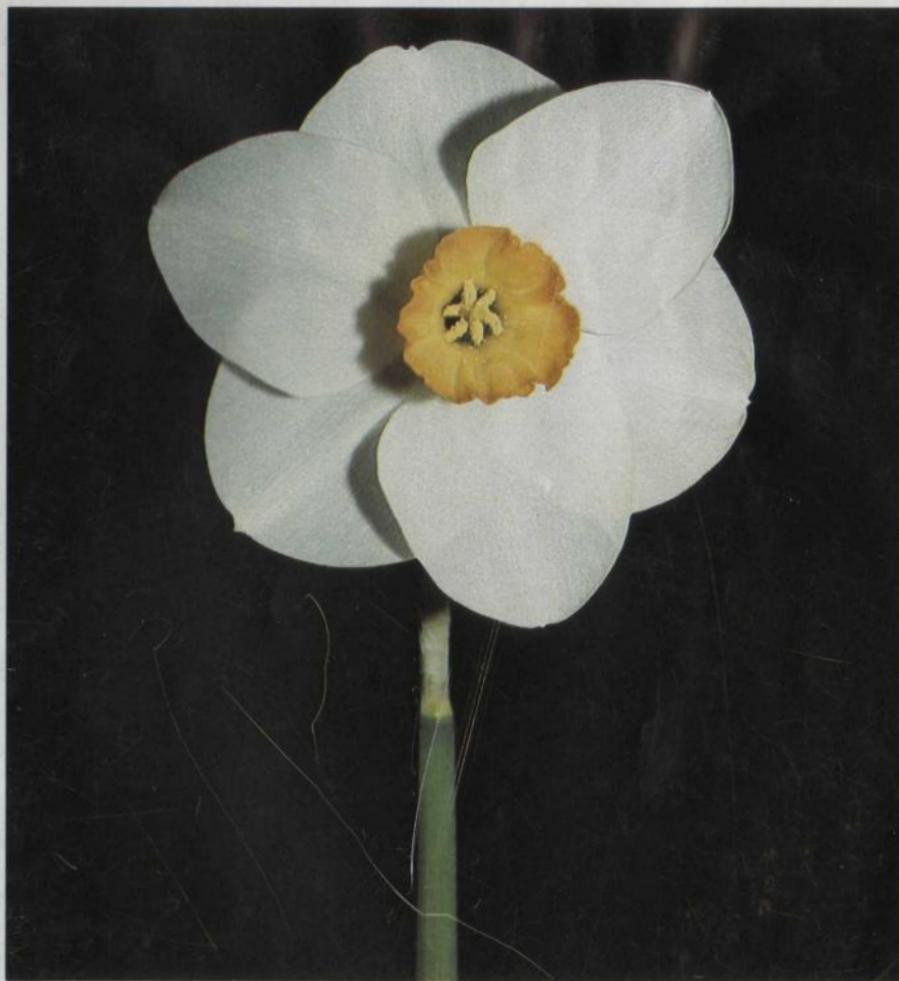


Vol. 20, No. 4
June 1984

THE
DAFFODIL
JOURNAL



Quarterly Publication of
AMERICAN DAFFODIL SOCIETY, INC.

The Daffodil Journal

ISSN 0011-5290

Quarterly Publication of the American Daffodil Society, Inc.

Vol. 20

JUNE 1984

Number 4

OFFICERS OF THE SOCIETY

MRS. GOETHE LINK, *President*

P.O. Box 84, Brooklyn, IN 46111

DR. THEODORE SNAZELLE, *First Vice President*

418 McDonald Dr., Clinton, MS 39056

MRS. MARVIN V. ANDERSEN, *Second Vice President*

7 Perth Drive, Wilmington, DE 19803

MS. MARILYNN HOWE, *Secretary*

11831 Juniette, Culver City, CA 90230

WELLS KNIERIM, *Treasurer*

31090 Providence Road, Cleveland, OH 44124

Executive Director — MISS LESLIE E. ANDERSON

Rt. 3, 2302 Byhalia Rd., Hernando, MS 38632

(Tel. 601-368-6337)

All correspondence regarding memberships, change of address, receipt of publications, supplies, ADS records, and other business matters should be addressed to the Executive Director.

THE DAFFODIL JOURNAL is published quarterly (March, June, September, and December) by the American Daffodil Society, Inc., Hernando, MS 38632. Second class postage paid at Hernando, MS, and additional mailing office. Subscription price (including membership) is \$10.00 per year, \$27.50 for three years. Single copies of current or back numbers are \$2.00.

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Chairman of Publications
Mrs. Robert Cartwright
1216 Goodloe Dr.
Nashville, Tennessee 37215
(Tel. 615-373-0814)

Editor, Daffodil Journal
Mrs. Paul Gripshover
Rt. 3, 1206 Natchez Road
Franklin, Tennessee 37064
(Tel. 615-790-6202)

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

DEADLINE FOR THE NEXT ISSUE IS JULY 5, 1984

SCHEDULE OF MEMBERSHIP DUES IN THE AMERICAN DAFFODIL SOCIETY

Individual	\$10.00 a year or \$27.50 for three years
	(Juniors, through 18 years of age, \$5.00 a year)
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Advertising rates for the *Journal* are as follows: full inside page, \$75.00; one-half page, \$45.00; one-quarter page, \$30.00. For additional information, write the Chairman of Publications, Mrs. Robert Cartwright.

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THE COVER PHOTO

is of Purbeck (Blanchard, 1971), winner of the Gold Ribbon in the National Show held recently in Portland, and exhibited by Father Athanasius Buchholz. (Gripshover photo)

PORTLAND — 1984

RICHARD EZELL, *Chambersburg, Pennsylvania*

Photos by MARY LOU GRIPSHOVER

For the fourth time in its thirty-year life the American Daffodil Society held its annual Convention in Portland, Oregon. This year's was the biggest yet on the West Coast, with almost 200 members attending April 5, 6, and 7. The flowers, programs, tours, food, the friendly gatherings early and late—all were outstanding. Why, even the weather was pretty good.

The National Show on the first day of the Convention was dominated by Oregon and California growers, with Father Athanasius Buchholz's big, bright, and smooth blooms victorious almost wherever entered. But the central and eastern sections of the country were also represented among the winners, and the overall effect of the show was one of exceptionally high quality.

There were six welcome commercial exhibits staged, unfortunately in a rather dark hallway that made one wish for a portable floodlight with which to view them. British Columbia's David Sheppard had a colorful array of split coronas, all the



Julius Wadekamper and Mike Heger enjoy the show.



Left, Kathy Andersen chats with Leslie and Martha Anderson; right, Bob Spotts and Peggy Macneale enjoy the tour.

more intriguing because accompanied by a notice that none would be sold to customers in the U.S. (Mr. Sheppard says he has as much business as he can handle without ours.) Barbara Abel-Smith lugged all the way from England large and attractive specimens of flowers of her own raising. To name a few that stood out: Brackenhurst, April Love, Tutankhamun (that excellent garden white), and a most fetching green-eyed, small-cupped white, still under number. Richard and



Father A's winning Quinn collection included: (top, left to right) Olympic Gold, Coloratura, Galahad, Purbeck, Golden Aura, Masquerade, Lapine, and Precedent; (middle) Arish Mell, Montaval, Rockall, Big John, Dailmanach, Sun Ball, Pitchroy, and Pipit; (bottom) Rival, Arctic Char, New Penny, Panache, Dividend, Fintona, Colorful, and Cherry Bounce.



Jingle Bells 5 W-Y, winner of the Olive Lee Bowl, exhibited by Bob Spotts, California.



April Tears 5 Y-Y, winner of the Miniature Gold Ribbon, exhibited by Nancy Wilson, California.

Elise Havens put up a trade display of familiar and newer cultivars, in addition to the garage full of named and numbered beauties we would later see at their home. From the Tidewater country of Virginia, Brent Heath of the Daffodil Mart brought a wonderously varied group of shapes, sizes, and colors, highlighted by the miniature triandrus hybrid, Sennocke, now being offered (after a lapse of Lord-knows-how-many years), thanks to Netherlander Wim Lemmers's enterprise in arranging the reproduction of the cultivar by means of tissue culture. Russell Graham, who has acquired many of the Pannill and Evans stocks, had good vases of such familiar things as Suede and Jet Set. Murray Evans's exhibit, happily staged in the show room, included seedlings still under number along with such favorites as Chelan and Arctic Char.

Friday's tour took place on a glorious spring day of sun and fleecy clouds. At Bonnie Brae Gardens, the home and business address of Mr. and Mrs. Frank Driver, we saw good stocks of many unusual and desirable daffodils, including Sidhe, Explosion, Angel, Sailboat, and Snipe. There were such other attractions as a stem of the tazetta, Highfield Beauty, over two feet tall and bearing five florets; dramatic blue azaleas; four plants of Bill Pannill's miniature, Junior Miss; and a fine, fat, calico cat insinuating itself among the legs of the visitors.

After a luncheon at Menucha, a retreat featuring magnificent views up and down the Columbia River, not to mention a delicious "family-style" meal, we journeyed to the high spot of the day's outing, a visit with Estella and Murray Evans. There we found food, too tempting to ignore—even if we had just eaten—but mostly there was feast for the eyes, with recently named and numbered flowers displayed indoors competing with Murray's fields at peak of bloom. There were dazzlingly colored pink-cups and whiter-than-white whites, but there was also a many-floreted triandrus hybrid, W-8, that seemed a larger, more vigorous version of the species, with the species' grace preserved intact. And there was a large yellow-perianth trumpet, blooming this year for the first time, with an orange corona so bright it caught the eye from a hundred feet away.

A different sort of visual treat awaited us at the home of Mr. and Mrs. Ernest Kirby. With the flowering cherries, flowering currants, small bulbs, wild flowers, early perennials, and masses of daffodils, there was more bloom of more varieties than most of us had ever seen at one time in a rather compact space. There was less bloom and more green at the final stop of the tour, where Mr. and Mrs. Frank Mackaness grow from seed and cuttings a wide variety of hardy perennials amidst beautifully groomed lawns, borders, and beds outlined by meticulously sheared taxus hedges and towering arborvitae grown close together as windbreak. And then on the ride back to Portland there was a sight of snow-capped Mount Hood gleaming majestically in the bright Oregon sunshine.

Friday evening's dinner meeting was notable for Brian Duncan's professedly "non-educational" talk, and for the awarding of both the ADS Silver and Gold Medals to two of the Society's favorite people. Mary Lou Griphover was awarded the Silver Medal for, among other things, "having taken the *Journal* to new heights, where it is recognized nationally and internationally as the finest daffodil publication in existence." Bill Pannill received the Gold Medal for a lengthy list of accomplishments which added up simply to his being "the best amateur hybridizer of daffodils in the world."

Brian Duncan's topic, "Peripheral Pleasures of Growing Daffodils," gave him freedom to roam widely through the many symptoms and complications of the "yellow fever." He warned of ABSENT-MINDEDNESS as a result of concern for "these little yellow spring poppers," which leads often to INCOHERENCE with "babblings of Golden Joy following Regal Bliss amongst the 2 Y-YRs," and finally sometimes to STARVATION AND DEPRIVATION, and even to locking oneself



Top left, Bob Jerrill and Barrie Kridler at Bonnie Brae Gardens; right, Harold Koopowitz, Karin King, Dale and Gene Bauer and friends enjoy lunch at Menucha. Bottom left, Roberta Watrous, John Penning, Barrie Nichols, Handy Hatfield, Richard Ezell, and Charlene Owen lunch at Menucha; right, Kate Reade, Beverly Barbour, and Bill Roese at Bonnie Brae Gardens.



Top left, Jerry and Nancy Wilson compare notes with Sid DuBose; right, Delia Bankhead and Christine Hanenkrat talk with Murray Evans. Bottom left, Nancy Gill, Ruth Pardue, and Naomi Liggett in the Evans's fields; right, in the Kirby garden.

out of one's hotel room at three o'clock in the morning without being properly dressed for a trip down to the lobby for a key. "Absurd people, daffodil people," he said, "standing there licking fly dirt off petals. . . and geometric types, who try to twist flowers into what is called 'axis balance,' until they end up with the flower in one hand up there and the stem in the other down here." Concluding, he reminded us of the great good times we absurd types have, and that after all, "We are here in Portland because of daffodils, but also because of daffodil people."

Saturday morning a large and enthusiastic group attended the hybridizers' breakfast that has in only a few years become a tradition at conventions. A number of topics were bandied about, including the need for fusarium-resistant cultivars and for earlier Division 3 flowers and later Division 1s, but the really mind-boggling prospects were proposed by Harold Koopowitz, who assured us that new techniques of genetic engineering will allow us to see blue, purple, and emerald daffodils in our lifetimes, with some "color-engineering" to arrive in less than ten years. "We are nearing the end of the era of hybridizing for color," he declared. "You may well say, 'I will create a pure cerise daffodil,' then go into the lab and do it." The thought of this titillating possibility caused Marie Bozievich to exclaim, "Breeders will have to employ designers!" Ted Snazelle returned the discussion to earth with the reminder that "lurking behind these marvelous new daffodils is the specter of basal rot."

Saturday brought the obligatory rainy day, without which some of us would not have believed we had truly been to Oregon in daffodil time. At the Havens's the showers kept all but the most serious (absurd?) daffodil watchers confined to the garage. This was no great handicap, however, since an opulent Mitsch-Havens display of named cultivars and numbered seedlings was mounted there. And there with Elise and Dick Havens was Grant Mitsch, greeting old friends, meeting new ones, and receiving personal thanks from many for all he has given us.

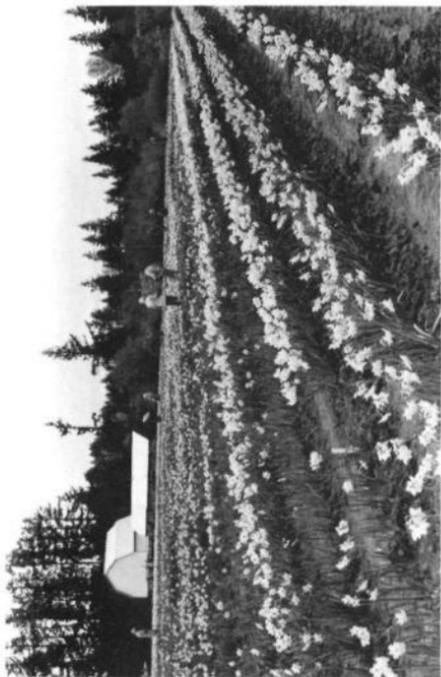
As to the flowers, there were many to excite admiration, but the crowd seemed never less than three deep before a handsome reversed bi-color trumpet, 2P33 (Chiloquin × Arctic Gold), which was several long lengths ahead of anything in its class. Out in the puddling fields there were great stocks of many of the familiar things, and much smaller, but fascinating, bits of such newer lovelies as Wheatear, Lavalier, and Elixir.

And then on to Mount Angel Abbey with its beautiful, modern library, its more than delicious (and more than ample) luncheon, and best of all, Father Athanasius's flowers in their clearing amongst the rugged brush, perched upon a steep hillside, the path to which had been turned into a mudslide by the steady downpour. And slide down it most of us did, feeling it well worth the hazards to see the biggest, tallest daffodil blooms many of us had ever gazed upon.

Back on the bus, shivering and shaking the water from her hair, Deborah O'Brien asked plaintively, "Why do you think Father A. chose *that* spot to plant his daffodils?" "It's the only spot they'd give him," answered Brian Duncan with mock gravity. "He was made to put them there as penance."

After the banquet that evening, "The Daffodil Lives of Grant Mitsch and Murray Evans" were reviewed by Harold Koopowitz. For both men there was a letter of appreciation from Oregon's Governor Victor Atiyeh, and for Grant there was one from President Reagan, and yet another surprise: the Netherlands' Consul was on hand to award him the Dutch Bulb Growers' prestigious Dix medal, "for his love of the narcissus and his determination to spread its popularity through the world."

The ADS's Gene Bauer presented both men with paintings featuring seven of their flowers against backgrounds consisting of the names of each and every cultivar introduced by them. The evening of tribute to Murray Evans and Grant Mitsch was capped by Koopowitz's eloquent reminder that "Every time we see



Top left, at the Havens's plantings; right, Kate Donald, RHS Registrar, and Grant Mitsch confer. Bottom left, Delia Bankhead, Elise Mitsch Havens, and Loyce McKenzie; right Sid DuBose inspects the daffodils in the garage.



Top left, Marilyn Howe, Harold Koopowitz, Barrie Nichols didn't let the rain stop them! Right, Dale Bauer, Gene Cameron and friends lunch at The Abbey.
 Bottom left, some absurd types enjoying Father A's daffodils in the rain; right, Betty and Brian Duncan with medal-winning Father A.

one of their flowers in our gardens, they touch our lives. . . and they will continue to touch our lives for decades and decades to come."

So ended this, the biggest and best Oregon Convention, and those who had been there left with a feeling of exhilaration edged just a mite with sadness: we had enjoyed good company and seen the most exciting flowers in the United States. We had honored the editor of our *Journal* and America's three greatest hybridizers; when, if ever, would we have such an occasion again?



Gene Bauer, Murray Evans, and Bill Tribe.

THE DAFFODIL SOCIETY



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

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

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

Hon. Treasurer, Ivor Fox, 44 Wargrave Road, Twyford, Reading, Berks., England.

PRESIDENT'S MESSAGE AT THE ANNUAL MEETING

April 6, 1984, Portland, Oregon

Monday, April 9th, is the thirtieth birthday of the American Daffodil Society and we have much to celebrate. Our Society continues to be in excellent condition. Our membership is at an all-time high and our financial condition couldn't be better.

This success is not by accident. We have an enthusiastic, active membership, all of whom have done their part. We have a Board of Directors of more than sixty members who have unselfishly carried out their assigned tasks with gusto.

The major highlights of the year were covered in my message to the membership in the March *Journal*. Rather than be repetitious, tonight I would prefer to pay tribute to those in the Society who, not once but year-after-year, accomplish important tasks for the Society—all-too-often without the recognition. I'd like to acknowledge these contributions not by using names, but rather by the work that has been done.

Forgive me if someone's work is not mentioned, for the list of accomplishments seems endless. Likewise, mentioning someone's name is hazardous. Some deserving person may be overlooked and my message would do more harm than good. Some of the work is visible and obvious; however, much of the work is equally important but behind the scene and is known to only a few.

On the visible side we can start with our Annual Convention like the fine one we are having here in Portland. It takes a lot of people to make the arrangements for a convention. Behind the scene are many very tired people. We owe them our grateful thanks.

We have our award-winning *Daffodil Journal*, now recognized throughout the world as one of the outstanding horticultural publications.

We also have: regional news letters, slide programs, round robins, a library, regional meetings, print-outs of the 12,000 daffodils from the *Data Bank*, a membership roster, publications like *Daffodils to Show and Grow* and other daffodil-related items for sale, and of course we have all the local daffodil shows and provide the judges for the shows.

All these are visible—better known.

The not-so-visible list is much longer. Someone, or in some cases more than one, must do the following to make the Society go: write articles for the *Journal*; edit and print the *Journal*; obtain ads for the *Journal*; maintain the financial records; audit the books; collect dues; pay the bills; invest the surplus; keep the IRS happy; prepare the annual budget; record the minutes of meetings; maintain the names and addresses of members; serve on the Nominating Committee; serve on the Honors Committee; promote and encourage a wide interest in daffodils; promote local daffodil shows; assist in publicizing local shows; build membership in the ADS; provide speakers for local groups; help local amateurs obtain bulbs; advise these amateurs on growing and showing daffodils; review all local show schedules; maintain and distribute ADS ribbons, medals, and trophies; act as a focal point for hybridizers and as "seed brokers" for daffodils; resolve and correct, if necessary, color coding for all daffodil cultivars; maintain the *Data Bank*; coordinate registration of new daffodils with the Royal Horticultural Society; establish ADS test gardens, trial gardens, and display gardens; study and do research on daffodil pests and diseases; maintain and handle the mailing of slide programs; analyze, summarize, and publish the annual show report of all the shows in the country; maintain a list of qualified judges; provide schools for new judges and refresher courses for present judges; AND. . .well, let's stop there. I think you get the picture!!!

You have all heard the expression, "Yes, but what have you done for me lately?" Well, now you know.

Supporting all this are the 1700 members—you! Daffodil enthusiasts are a *tough bunch!* Plagued by unbelievable weather, bulb pests and diseases, intense competition, we keep on going. We never give up. It's called stick-to-itiveness.

From all of these efforts by so many sung and unsung heroes, the future of the American Daffodil Society looks bright—at least for the next thirty years. I hope I've made my point.

In a few minutes you will have a new President. It has been an honor and a privilege to serve you. Many have helped me. Without lots of help, no one person can handle this job, certainly not I.

Last winter I read a book about the Stamp Act, which preceded and probably precipitated the Revolution. The very last sentence in the book intrigued me. Referring to one of the men involved, it read, "Having completed his part, John Robinson. . . drifted out of the stream of history."

I, too, will drift out of the stream of American Daffodil Society history. However, I expect to stay active and help when I'm needed for as long as I'm able.

I shall forever treasure these past two years. Thank you one and all.

God bless you.

QUENTIN E. ERLANDSON

CITATION FOR THE AWARD OF THE GOLD MEDAL OF THE ADS

The ADS Gold Medal is awarded for "creative work of a preeminent nature in the understanding and advancement of daffodils." Quoting from the numerous nominating and seconding letters, taking excerpts from the *ADS Journal*, and adding a few personal observations, there can be no doubt that this gentleman is a deserving Gold Medal recipient for his outstanding contributions toward advancing the genus *Narcissus*.

Quoting from one of the letters, "He is probably the world's foremost amateur hybridizer of daffodils." Another referred to him as a "world class hybridizer." He has shown and/or registered his originations in most of the divisions of the daffodil classifications. He has also successfully bred a number of useful miniatures, an uncommon feat for the hybridizer producing quality standard forms.

The success of his creative hybridizing over the past twenty years is attested by passing the supreme test—the show bench. In the 1972 Convention Show here in Portland, he won the Gold Carey E. Quinn Award. It apparently created quite a sensation inasmuch as that was the first time the Gold Quinn was awarded for a collection consisting entirely of seedlings—all twenty-four were his own seedlings. He has won a seemingly endless number of awards, dominating many of the largest shows in America. Others have also benefited from his work. In 1983, for example, his *Homestead 2 W-W* was the top winner in shows across the country.

A successful head of a corporation, he has somehow been able to devote a generous amount of his time to not only advancing the daffodil but also helping other daffodil-oriented individuals and groups. He has been an educator, has set up non-competitive exhibits, has taught in ADS Schools, has done programs at meetings, and is a Past President of the ADS—all examples of his unselfish gift of time. It's hard to even guess how many people have become daffodil enthusiasts as a direct result of his efforts. His jovial manner and his ability to entertain have brought pleasure to us on countless occasions.

In 1976 he won the ADS Silver Medal, but tonight, on behalf of the ADS it is an honor to present the Gold Medal for 1984 to Mr. William G. Pannill of Martinsville, Virginia.



Mr. Erlandson presents the Gold Medal to Bill Pannill (left) and the Silver Medal to Mary Lou Gripshover (right).

CITATION FOR THE AWARD OF THE SILVER MEDAL OF THE ADS

The ADS Silver Medal is awarded for "outstanding and distinguished service to the American Daffodil Society." This year's recipient has indeed met these qualifications. The nominating and seconding letters were full of praise for her achievements and contributions to the Society.

This personable lady has quietly but effectively served the Society in many ways: Regional Director, Regional Vice President, Chairman of an ADS Convention, and more.

Her individual achievements include growing superb daffodils, both standards and miniatures, and hybridizing the latter. She is an accredited judge and a life member of the Society.

However, the membership of the ADS probably knows her best and benefited the most by her work as Editor of *The Daffodil Journal*. Since 1964, the Society has always been blessed with a quality *Journal*. The first two Editors had taken our publication to a height of literary and horticultural perfection difficult to equal or surpass—a hard act to follow. None-the-less, since 1978, when she became the third Editor, the quality of the *Journal* has risen to even new heights. It has become truly an international journal for the dissemination of daffodil information. She has guided the *Journal* to new excellence in many ways: a fresh look; articles on daffodil culture, pests, and diseases for everyone from the beginner to the hybridizer; travel reports; show reports; and interesting pictures including the newly added color.

Our *Journal* is probably the most important value received by every member of our world-wide membership and, to a great extent, our future depends on its continuing excellence.

Thanks to her talented and time-consuming efforts, the recent issues of the *Journal* have not gone unnoticed in other horticultural circles. For the past four years *The Daffodil Journal* has received the "Award of Merit" of the National Council of State Garden Clubs. This is a remarkable and much-deserved achievement which we can all share with pride. Now it's our turn to honor her.

On behalf of the ADS, it is an honor to present the Silver Medal for 1984 to Mrs. Paul J. Gripshover of Franklin, Tennessee.

MEET HELEN LINK

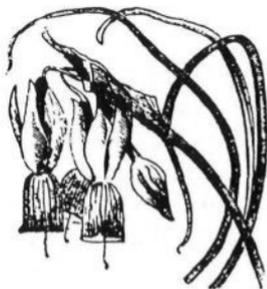
Our new president, Helen Link, is truly an ambassador for the daffodil. One of the charter members of the ADS, she has been growing daffodils for forty-five years. For the past forty years her garden—which now numbers over 1000 different cultivars and species—has been open to the public for two weeks during daffodil season.

Mrs. Link is surely the complete daffodil grower. Hers is not an exhibitor's garden, or a miniature collection, or a fancier's collection, or a hybridizer's garden—it is all these and more. Her collection includes novelties grown in her test garden as well as quantities of older cultivars happily naturalized in the orchard. Miniatures have their place as well, and the tender species and hybrids find a place in her cold greenhouse.

Mrs. Link was the first ADS Schools Chairman, is an instructor in ADS Schools and an Accredited Judge, and was the recipient of the ADS Silver Medal in 1963. She gives freely of her time and knowledge giving programs about daffodils. A hybridizer, perhaps her best known cultivars are *Pewee*, *Lucy Jane*, and *Sheilah*. In 1982, she was the recipient of the Garden Club of America's Florens Debevoise Medal; and she is a horticulture instructor for the National Council of State Garden Clubs, Inc. Besides being interested in daffodils, she is also an expert on orchids.

Born and raised in Indiana, she is a nurse by training. After her marriage to the noted surgeon, Dr. Goethe Link, studying and growing flowers became her avocation. Later she returned to college and earned a degree in botany with a minor in Russian.

Mrs. Link's days are never idle. Besides her horticultural interests, she is a volunteer at the Morgan County Hospital, belongs to a literary club, a garden club, and is in charge of special music at Mooresville United Methodist Church.



N. TRIANDRUS.
Not much reduced from natural size.

BULLETIN BOARD

FROM THE PRESIDENT'S DESK

Daffodils Forever

As time moves on, so do the daffodils. When reading the *RHS Year Book*, 1913 issue, which is now seventy years old, I noted that very few cultivars which were popular at that time are being grown today. The hybridizers have made tremendous progress in breeding better form and interesting color combinations into our modern cultivars.

The purpose of the American Daffodil Society is to promote and encourage wide interest in daffodils; scientific research; and education with respect to their culture, breeding, diseases, pests, exhibiting, and testing; to encourage, coordinate, and sponsor shows and exhibitions of daffodils; to disseminate horticultural information regarding daffodils and issue publications for such purpose; to provide for registration of daffodil cultivars and standardization of their names, and to cooperate with international authorities for that purpose.

For nearly thirty years, the Society has grown each year; membership has increased. Our hybridizers have given us many new cultivars of merit; the number of shows has increased, and we have well trained judges due to our school program. We have three research programs underway. We can also boast we have individual members and groups who have test and display gardens as well as our Wister Award for American-Bred Daffodils. Thirty-three growers are testing two cultivars throughout the U.S. to find out how certain garden cultivars will prosper in all areas.

The Daffodil Journal has become a very informative, worthwhile publication; and due to our Editor, innovative Mary Lou Gripshover, and Wells Knierim we can enjoy the inclusion of some beautiful color. We also have a valuable Library which all members may use by contacting the Librarian.

Thanks go to all our past presidents and board members who have given so much time and effort to make our Society prosperous. To maintain our steady progress, we need new members, more shows, a continuation of research, and the help of all our members in promoting our favorite flower in any way we can.

HELEN K. LINK

ADS SLIDE CONTEST REPORT

Members of the Photography Committee are quite sure there would be hundreds of slides arriving for competition. Not quite so! Two ADS members did, however, read *The Daffodil Journal* and enter the contest. A total of twenty-six slides were entered. All qualified for the contest.

It is the chairman's privilege to present cash gifts to Helen Link for her slide of Tu Tu 5 W-GWW, winner in Class A, Division 5; and Julius Wadekamper for his slide of Irish Coffee 3 Y-YYO, which was the winner in Class B, Division 3.

All slides received will be placed in the ADS slide library and used in programs as needed.

—MRS. KELLY SHRYOC, *Photography Chairman*

REPORT ADS HEALTH AND CULTURE COMMITTEE

In addition to furnishing advice to several persons on health and culture problems, my research on benomyl-alternative fungicides has resulted in a paper being read this year at the Mississippi Academy of Sciences Annual Meeting in Biloxi, MS, and also at the Annual Meeting of the Mississippi Association of Plant Pathologists and Nematologists (MAPPAN). In both instances the paper was favorably received. Abstract of the paper follows:

COMPARISON OF FUNGICIDE AGAR INCORPORATION PLATE AND FUNGICIDE AGAR GEL DIFFUSION PLATE METHODS FOR RESEARCHING BENOMYL ALTERNATIVE FUNGICIDES IN THE CONTROL OF *FUSARIUM OXYSPORUM* F. SP. *NARCISSI*. Theodore E. Snazelle. Department of Biological Sciences, Mississippi College, Clinton, MS 39058.

The narcissus basal rot disease, caused by *Fusarium oxysporum* f. sp. *narcissi*, is probably the most important disease of narcissus. Benomyl is the preferred fungicide for control. Benomyl resistance in the narcissus basal rot fungus has not been proven; however, the possibility of such resistance exists. Thus, the search for alternative fungicides to benomyl is necessary. Fungicide agar incorporation (FAI) plates were made from Difco potato dextrose agar (PDA) supplemented with fungicides at 0.0 mg. a.i./ml (0% a.i.), 2.5 mg. a.i./ml (0.25% a.i.), 5.0 mg a.i./ml (0.5% a.i.), and 7.5 mg a.i./ml (0.75% a.i.), respectively. Fungicide agar gel diffusion (FAGD) plates were prepared by placing one cm² blocks of the four different FAI media at different peripheral points on PDA plates. Inoculation of FAI and FAGD plates was made with one cm² PDA blocks of sporulating fungus being placed in the center of the plates. Incubation was at room temperature under constant fluorescent light for 14-21 days. The FAGD plate method proved to be the preferable fungicide assay technique. The following benzimidazole or benzimidazole-containing fungicides were found to be growth inhibitory to the narcissus basal rot fungus: etridiazol (terrazole) + thiophanate methyl, thiophanate + thiram, thiabendazole, triazine compound + thiophanate, thiophanate, and thiophanate methyl + zinc ion + maneb.

With continuing ADS support, a large field trial for benomyl alternative fungicides will be started this next fall. The basal rot susceptible cultivar Golden Harvest 1 Y-Y will be tested against a number of benzimidazole or benzimidazole-containing fungicides.

THEODORE E. SNAZELLE, *Chairman*

NYLEX SPRINGWORLD 84

Time is getting short if you are thinking of attending the third world daffodil convention in Hamilton, New Zealand, and the tours planned in conjunction with it. Peter Ramsay writes, "Of course we'll accept latecomers if the transport isn't full." Expert daffodil growers from all parts of the world will speak at the various functions. Optional tours of New Zealand and Australia can also be included. If you're interested, write immediately to Peter Ramsay, 21 Cranwell Place, Hamilton, New Zealand, or to Frank Coles, 29 Glenburnie Rd., Mitcham, Victoria 3132, Australia, for details of tours planned in each country.

Anyone going on the New Zealand-Australia tour interested in going as part of a group, please write Leslie Anderson, 2302 Byhalia Rd., Rt. 3, Hernando, MS 38632, for further information.

FROM THE EDITOR'S DESK

Those of you who are waiting for Part II of the ADS History, will have to wait until the September issue. Unfortunately, some serious family problems—and daffodil season—claimed Miss Bankhead's attention. Look for her article in the next issue.

“WHERE CAN I GET. . .?”

CULTIVAR:

Praha 2 W-P

Tanagra, Angie
Little Prince, Mitzy
Poppet, Wideawake

DESIRED BY:

Dr. J. Shejbal, Via C. Dossi 14, 00137 Roma, Italy

Alice Wray Taylor, Rte. 6 Pinewood Rd.,
Franklin, TN 37064
(Will trade.)

FIND IT HERE. . .

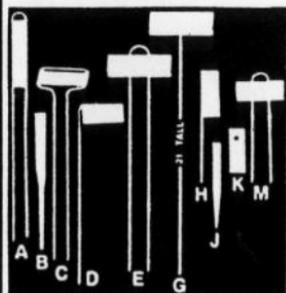
Miniatures to trade

James Wells, 470 Nut Swamp Rd.,
Red Bank, NJ 07701

Memorial Contributions

Mary Knierim Mr. and Mrs. John Bozievich
Mr. & Mrs. Robert Johnson
Jack Ward
Phil Phillips Mr. & Mrs. R.L. Armstrong

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F—Tall Display Markers	30 for \$9.25
G—Tall Single Staff Markers	30 for \$6.75
H—Flag Style Markers	30 for \$5.50
J—Small Plant Labels	100 for \$5.65
K—Tie-On Labels	100 for \$6.60
M—Miniature Markers	30 for \$5.60

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AMERICAN DAFFODIL SOCIETY, INC.
INCOME AND EXPENSES — YEAR ENDED DECEMBER 31, 1983

INCOME:

Dues Paid in 1983			\$13,765.99
Life Memberships Paid in 1983			1,950.00
Contributions			750.67
Memorial Gifts			475.00
Sale of Books, Supplies, etc.:	<u>Income</u>	<u>Expense</u>	
R.H.S. Yearbooks	\$ 517.00	\$1,104.18	
A.H.S. Handbooks	234.19	—	
Daffodils to Show and Grow	697.90	—	
Handbook for Judges	559.40	—	
Old R.H.S. and Out of Print Books	1,174.25	6.26	
A.D.S. Publications	303.50	—	
A.D.S. Membership Pins	124.00	151.98	
Data Bank Printouts and Binders	770.50	400.00	
Binders for Journals	264.50	575.31	
Show Entry Cards	686.00	—	
Daffodils in Ireland	90.00	107.96	
Medals and Ribbons	351.00	312.95	
Registration Fees	34.00	32.00	
Barr	41.50	—	
	<u>\$5,847.74</u>	<u>\$2,690.64</u>	3,157.10
Advertising in Journal			855.60
Judges and Refresher Fees			381.68
Slide Rentals			480.00
Interest Received			5,621.07
Return of Advance			1,000.00
Convention Surplus (Williamsburg)			3,033.19
TOTAL INCOME			<u>\$31,470.30</u>

EXPENSES:

Daffodil Journal - Printing and Mailing			\$13,694.73
Office Expense:			
Printing and Supplies	\$ 658.86		
Postage and Telephone	1,394.37		
Executive Director and Clerical	5,975.00		
Social Security Tax, net	199.79		
Bank Services Charges	62.77		
Computer Labels and Lists	291.88		
Cost of Transferring Books and Records	235.27		
		<u>8,817.94</u>	
Regional Vice-Presidents (Newsletters)			1,296.30
Secretary			103.60
Committees			287.54
Insurance and Bond			238.00
Grants from Research and Educational Fund			1,814.00
Miscellaneous			20.00
TOTAL EXPENSES			<u>\$26,272.11</u>

Bumper sticker seen in Lexington, Kentucky: "Everything's Coming Up Roses.
 . . . But I Planted Daffodils."

**AMERICAN DAFFODIL SOCIETY, INC.
BALANCE SHEET — DECEMBER 31, 1983**

ASSETS:

Cash in Bank - Bank of North Carolina	\$ 2,151.97
Money mart Assets - Prudential-Bache, from 8.00% to 9.20%	9,729.07
C.D. First Federal S.&L., Phoenix, Ariz. 12.75%, due 10-6-86	20,000.00
C.D. First National Bank of Seattle, 10.50% due 12-8-86	5,000.00
C.D. NCNB (N. C. Nat. Bank), 9.51% due 1-12-84	3,500.00
C.D. NCNB (N. C. Nat. Bank), 8.95% due 2-19-84	5,000.00
Ford Motor Credit Corp., 8½% Bonds due 3-15-91	10,000.00
Accrued Interest not due on Ford Bonds	247.50

Inventory of Publications, etc.:

R.H.S. Yearbooks, 1975 to 82/83 (200)	\$ 700.00	
Old RHS Yearbooks (81)	320.70	
A.H.S. Handbooks (802)	802.00	
Daffodils to Show and Grow (33)	46.20	
Handbook for Judges (622)	622.00	
Binders for Journals (83)	439.90	
Show Entry Cards, large (40M)	690.00	
Show Entry Cards, min. (18M)	219.78	
Daffodil Data Bank Printouts	—	
Daffodil Data Bank Printout Binders (2)	5.76	
Brief Guide to Growing Daffodils (240)	55.20	
Daffodils in Ireland (20)	20.00	
ADS Membership Pins (50)	221.10	
Peter Barr Boon (28)	22.40	4,165.04

Inventory of Medals and Trophies:

Medal Dies	15.00	
Gold and Silver Medals	270.42	
Larry Mains Silver Trays, min. (6)	270.00	555.42

TOTAL ASSETS

\$60,349.00

LIABILITIES:

Dues Paid in Advance (in whole or in part)	\$ 9,894.36
Life Memberships	17,250.00
Memorial Fund	475.00

Education and Research Fund:

John Larus Memorial	\$10,000.00	
Other Contributions	160.28	
Convention Surpluses	7,228.02	
Interest on Fund Assets	6,454.22	
Less Grants in 1981, 1982, and 1983	- 2,865.00	20,977.52

Net Worth

\$11,752.12

TOTAL LIABILITIES

\$60,349.00

Wells Knierim, Treasurer
March 9, 1984

AUDIT STATEMENT

The above income statement and balance sheet for the year 1983 were prepared using the cash receipts and disbursements records maintained by the Executive Director. The balances were verified with the bank statement and account statements of the financial institutions indicated. The inventory of publications is shown at cost except that no value is included for surplus ADS publications. In addition to the assets shown, the Society has a substantial library of books on daffodil culture, many of which are rare and valuable, and several colored slide collections. It also has a number of memorial silver trophies awarded at convention shows. The slides, books and trophies were mostly contributed and no value is included.

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

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

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

Jane A. Moore, Auditor

TAZETTA TALK

WILLIAM R.P. WELCH, Carmel Valley, California

I thought my December article dealing with eelworm would create quite a response, but the lack of it suggests that perhaps everyone simply thought I was nuts! Maybe I wasn't the only one waiting to learn how the plants looked after the bulbs had cleaned up so nicely. Depending on variety and how badly infected the bulbs were beforehand, I got a range of 95-100% symptom-free plants. The remaining few that did show some evidence of remaining eelworm look nowhere near as bad as most did the previous year. I am confident they will be fine in another year or two, but will report further on this when I have seen them again. While I have a feeling that all members of the genus will resist eelworm if not given water-soluble fertilizer, I now must do experiments on them and report on this eventually also.

A number of interesting seedlings flowered this year from seed of *Avalanche*. Those from pollen of *N. tazetta aureus* had a very pale yellow perianth with a darker lemon yellow cup similar to that of the seed parent. Most of the plants were of *Avalanche* appearance but smaller, probably due to being only in their fourth year but perhaps some of the small stature of *N. tazetta aureus* is showing through. They did not set seed, but the yield of pollen was fairly good. The best looked much like a taller *Avalanche* but with a slight creaminess to the perianth. It had nine florets of a size and shape identical to *Avalanche*. The real improvement in stem height came on those from *Avalanche* × *Matador*. These were of perhaps twice the height one would expect from similarly small bulbs of *Avalanche* itself, while the up to four florets were of *Avalanche* size but like *Matador* in shape. The best had a wonderfully flat perianth with very broad, rounded segments and a fragrance reflecting an ancestry that is not purely *N. tazetta*. Its perianth was creamy, while the cup was a dark yellow. Foliage was more like that of *Avalanche* in this seedling, while in the siblings it was often much narrower. All had similar color, which includes a pale yellow cast to the buds that fades out quickly. None set seed, but pollen was surprisingly plentiful. Several dozen more seedlings from this cross are expected to flower next year. It is hoped that a more colorful cup will show up in some, but even the improved height is reason enough to be excited, as *Avalanche* tends to be short-stemmed here unless given partial shade or crowded very closely together. This cross has been repeated on a larger scale this year, and it appears that *Matador* pollen causes pods to set better on *Avalanche* than any other pollen I have tried.

The seedlings from *Polly's Pearl* × *Galil* were somewhat disappointing as nearly every one seemed to revert back to the paperwhite type and freely set self-pollinated seed as ordinary paperwhites so readily do. There was the usual range of variation that one sees among seed-grown paperwhites but in general there was a bit more vigor than that seen in other batches. Only one has the darker green foliage seen in *Pearl*, and it did not flower. Many had the broad leaves and thick, well-rounded florets seen in the Australian paperwhite. The best have been crossed back onto *Pearl*, and pods are forming in the usual profusion seen when paperwhites are crossed on it. I am certain there is a strong element of paperwhite in the ancestry of *Pearl*, so am looking upon it as the one "paperwhite" that the breeder can use without having to de-anther beforehand, as it rarely selfs.

Another tazetta that is highly fertile to the right pollens, but which will rarely self-seed, is the true (Scilly Isles) *Soleil d'Or*. I think this was the sunniest, driest January here on record, but in spite of that, the only ones which yielded seed were those which had been crossed. They did so with great profusion, far more than I've

ever had on these before, with up to perhaps twenty seeds in a pod when other tazetta pollens were used. There was not one on those left to self in spite of flowering at the same time. The seeds on Soleil d'Or are much larger in size than those on any of the other yellow true tazettas, leading me to hope that the polyploidy for which it is noted is carrying through.

The season has been extremely dry and sunny here ever since Christmas, resulting in the largest seed crop ever. This drought should cut down on increase, but improve the production of flowers from existing bulbs. That is how they were affected during the last drought about seven years ago. The lasting quality of Silver Chimes seems to have been affected this year, but others seem only to have suffered shorter stems. Cultivated ground dries out less quickly than that in grass but all locations have taken quite a beating so far.

Bill Roesé once told me he felt there were two strains of Matador, since it was always the same plants that set seed each year. I can't say I've kept track of individuals that carefully, having always blamed the failures on weather or bad pollens or split styles making the florets uncrossable (not all that uncommon with Matador and some of its offspring), but I did find that some individuals definitely do belong to a different clone. They are unfading, with red cups solidly colored to the base, have longer styles, and are more slender in stature. The pollen is equally as powdery and abundant as the ordinary Matador, so I presume it is fertile; but it is yet to be determined whether this clone will set seed as easily. This clone forms less than 1% of the stock of 2000 bulbs bought in the summer of 1982. A bit more plentiful is an entirely different cultivar, possibly Klondyke, which was also mixed in. Much smaller in stature than Matador, the perianth is a nonfading light yellow with a dark yellow cup which is often very frilly. This one seems to vary in the frilliness of the cup from year to year, and even from one individual to the next. This is true with *Admiration* which was very frilly and very floriferous this year with many stems carrying up to seven florets. Its double form, *Fairness*, is certainly a beauty, but it multiplies slowly and yields few blooms. The fragrance is heavenly.

In my September, 1982, article I mentioned that some Pearl bulbs had been dug and roasted in the sun and that this had resulted in an improved production of pollen, and many more stems, but the loss of the ability to set seed. In my June, 1983, article I indicated that this had continued into the following year leading me to suspect that another strain might be involved by mistake. The continuation of this behavior in this third year, plus my finding another, unbaked, planting of so-called "Pearls" which behaved the same way, has led me to conclude that there are two separate strains which have been mistakenly viewed as one. Those things do happen! So while it is true that a good roasting will improve the number of stems and florets, I have no evidence any longer to suggest that it affects fertility adversely as the hot water treatment can in the first season afterward.

There are several pods forming on the true Grand Monarques this year, the first time I have had this many, although only a few clusters were pollinated. I had given up on using it, having crossed so many in the past with so little success. It is the Matador pollen which did it, as the ones in question had gotten mixed in with the *Avalanche*; and as I came upon them in the rows, they were pollinated at the same time. This I attribute to the unusually dry and warm weather this year, and to the fact that the other, more fertile, strains of Grand Monarque (as well as *Avalanche*) also responded better to the Matador pollen than to any other indicating that to be the easiest mate for all of this type. And with both parents having such large florets this should be a fine cross at that!

.....

How do others do it? Find out. Join a Round Robin.

VIRGINIA-BRED DAFFODILS AT VIRGINIA'S EXECUTIVE MANSION

POLLY BROOKS, *Richmond, Virginia*

Williamsburg, Monticello, Homestead, Irvington, Tuckahoe, Wendover, Newport, Lynchburg, Mary Baldwin, Lizzie Hop, Mountain Dew. Yes, these are daffodils—bred by a Virginian in Virginia.

Thirty cultivars representing the first seven divisions were planted at Virginia's Executive Mansion in October, 1983. The bulbs, markers, and encouragement were given by Richmond's two foremost daffodil hobbyists and exhibitors who are daffodil friends and showbench competitors of the breeder, William Pannill of Martinsville. The planning, plotting, and planting were done by the writer.

The thought occurred to me as I was planting some early spring bulbs at the back door of the Mansion where often our First Lady, Lynda Johnson Robb, exits and enters. Here, where earlier I had planted hosta, I put some miniature Little Gem, and the early Arctic Gold, as well as early Cream Beauty crocus, snowdrops, eranthis, early Rockery Beauty tulips, fusilier tulips, and anemone de Caen. The hosta foliage will take over as the bulb foliage fades. On the other side of the walk in a much larger area I had already planted some native Virginia plants: Virginia sweetbay magnolia (*Magnolia virginiana*), fringe tree (*Chionanthus virginicus*), witch hazel (*Hamamelis virginiana*), strawberry bush (*Euonymus americanus*) often called "Hearts-a-bustin with love," Virginia bluebells (*Mertensia virginica*), spring beauty (*Claytonia virginica*), *Tradescantia virginiana*, Christmas fern (*Polystichum acrostichoides*) and *Polypodium virginum*.

A magnificent Virginia live oak (*Quercus virginiana*) planted by Admiral Byrd in March, 1931, towers over the garden wall. Two native Virginia shadblow trees (*Amelanchier canadensis*) grow within the walled formal garden. The white flowers appear in early spring when shad are running up the James River to spawn, hence the name shadblow. A colossal native hackberry tree (*Celtis laevigata*), with a trunk forty inches across, grows on a very steep bank behind the Mansion. Eight large "Locust Tree of Virginia" line the outside of the driveway to the back. Boxwoods—adopted by Virginia—abound. Reportedly some of the first boxwoods in Virginia were planted at Mount Vernon by George Washington. Cuttings from this box grow on the Mansion grounds. Here also is a seedling of a *Magnolia grandiflora* planted by Andrew Jackson at the White House.

All these, and many more, Virginia plants are on the Mansion grounds. Why not Virginia-bred daffodils? Indeed why not!

But space? There is no space—not an inch! After a long, hard look, I saw a possibility—a semi-sunny spot protected by tall boxwood on the northeast and by a white serpentine wall on the southwest.

With permission and help from the Landscape Supervisor, I got going the next day. With two men to dig, four pressure treated garden logs, a bale of peatmoss, pine needles, and 3-9-18 fertilizer, the bed was ready for planting. This I did early next morning in light drizzling rain.

I left a space at each 13-inch interval for planting red geraniums in spring. Geraniums do well here all summer until killing frost, requiring little care and spreading to make a complete cover of beautiful foliage and a splash of color all summer. They are good for cutting, too.

As I was placing the markers I was again fascinated by the very appropriate Virginia names given to these beautiful Virginia daffodils by a Virginian.

THE BEGINNERS' CORNER

FRANCES ARMSTRONG, Covington, Virginia

If you want some new daffodil bulbs for fall planting (and who doesn't?), you should order them at once. Descriptive lists are available for the asking from the dozen or so commercial growers who advertise in this magazine. Most request that you send in your order no later than mid to late July. Beginning in late August or early September they will ship in rotation as the orders were received.

Some of the growers offer bulbs in large quantities for naturalizing. Most of them, however, price the bulbs individually. A well-grown daffodil usually multiplies rapidly; as a result, one bulb planted this fall may yield a showy dozen or so in five to eight years.

Names and descriptions are very enticing which makes selection quite difficult. To help you choose, study your *Journals* of the past year and look for show winners or recommendations of fellow members. At times you will be disappointed to find some of the best older cultivars no longer available, others withdrawn for increase, or some too expensive for the limitations of your budget or for your expertise in growing. To help you find good, reasonably priced daffodils, I am listing some from every division that are available this year from at least one grower. This is by no means a complete list but rather a guide for beginning daffodil growers.

Division 1: Y-Y Arctic Gold, King's Stag, Banbridge, Golden Rapture, Inca Gold; W-Y Prologue; W-W Cantatrice, Celilo, Empress of Ireland; Y-W Rich Reward, Rushlight.

Division 2: Y-Y Strines, Golden Aura, Oneonta, Copperfield; Y-R Bunclody, Crater, Flaming Meteor, Shining Light, Vulcan; O-R Rio Rouge; W-Y Jolly Roger, Festivity, My Love, Old Satin, Woodvale, Wahkeena; W-R Rameses, Irish Rover, Avenger, Arndilly, Eribol; W-OOY Peaceful; W-P Jewel Song, Salome, Accent; W-WPP Coral Ribbon, Coral Light; W-W Birdalone, Ben Hee, Crenelet, Stainless; W-GWW Ice Queen; Y-W Daydream, Rushlight.

Division 3: O-R Altruist; Y-YYR Sunapee; W-Y Aircastle, Eminent; W-WWY Syracuse, Park Springs; W-WYY Tranquil Morn; W-R Irish Splendour, Rockall; W-GYR Merlin; W-W Duchess of Abercorn, Verona, April Clouds, Achnasheen.

Division 4: Y-R Tahiti; W-R Acropolis; W-Y Bridal Crown; W-Y Unique; W-W Erlicheer (tender).

Division 5: Y-Y Chipper, Liberty Bells, Sidhe, Stint.

Division 6: Y-Y Bushtit, Charity May; W-W Jenny.

Division 7: W-P Bell Song; Y-Y Stratosphere, Quail; W-W Pueblo, Eland; Y-W Pipit, Oryx.

Division 8: Y-O Golden Dawn; Y-GOO Canarybird; W-O Geranium; W-W Silver Chimes.

Division 9: W-GGR Sea Green; W-GYR Poet's Wings, Quetzal.

Division 10: Y-Y *N. jonquilla*, *N. odorus*.

Division 11: Y-Y Square Dancer; W-WWY Lemon Beauty.

Miniatures: April Tears, Bagatelle, Chit Chat, Sun Dial, Sun Disc, Tete-a-tete, Hawera, Jumblie, Little Gem, Minnow.

A Change in Plants: If you don't get what you like, try to like what you get.

ON REVERSE BICOLOR DAFFODILS

F. STRONACH, *Austins Ferry, Tasmania*

(from the Tasmanian Daffodil Council Newsletter, July, 1983)

A color combination not included elsewhere! Certainly possibilities appeared to be very limited when this description first appeared in classification lists. Binkie and Spellbinder fitted the description but did little to generate popularity for this class. This is just a little hard to understand until one realizes firstly they were odd men out for the breeders. It would be a contradiction to breed for an ever paler cup with a stronger and stronger yellow in the perianth, and too, neither substance nor form could be said to have the same standard of quality that breeders were accustomed to when working with bicolors, particularly red-cupped varieties.

Never-the-less, when I saw the first Div. 1 Y-W on the show bench in Hobart in 1964, I was fascinated by it. There was something different in that yellow, for it had a hint of citrus; there was an acidity about it that I liked particularly. The flower was Russ Holland, the first to be produced in this class in Australia, and the pollen of that very flower was the origin of the line which I have bred since. It was an extremely difficult decision to make in deciding on a seed parent but I somehow guessed that the best chance I had was to use a flower which was a large cup Div. 2 W-WWY—Tunis. To me, Tunis, for all that it is a 'rag,' is a treasure chest full of surprises. I managed to flower seven of the resulting seedlings in 1968 and at least proved to my satisfaction that the character of Russ Holland was transferable through a true bi-color.

It should be added that Tunis must be spurned by all who admire quality because it is a shocking fader. I had crossed it with Rowella (Div. 1 W-Y), and chuckled to myself as I recalled the distaste which the late Tim Jackson felt for faders. He had every reason to believe in the stable color of Rowella; furthermore he was strongly in favour of breeding in the direction of even stronger and more lasting color. From that cross I obtained one particularly fine flower; it had very sound substance, form was most acceptable, and strength as good as I had seen in my own garden at least. I marked it 1/70 and it was used as a seed parent in place of Tunis to carry the pollen of Russ Holland once more.

It was about a year later when I read an article from two English enthusiasts and in it they described their own trial using Russ Holland and Tunis as I had done. I recall that they had similar success to mine, but what was also important, they had written down conclusions. The most important of these was that they saw the sadder side of Tunis as a stumbling block and the way round it was, they thought, to breed Tunis against a much better bicolor and then introduce Russ Holland to the Tunis cross. Imagine how I felt, the expectation was now high, the experience so far, an unbelievable experience; but I knew I had to wait at least another three years to confirm the theory.

In fact I had to wait four years but to my absolute delight the system had worked. Now I could see that I had flowers of better form than Russ Holland, and since Daydream was then at its height in popularity I prided myself that I had something to compare with the American flower. I began work with Daydream pollen and have seen some interesting changes take place. The corona color in a couple of instances has been pure white from the day of opening—in contrast to the yellow of the Russ Holland cup in the first few days after bud burst. At the same time I have observed a new creamy style of cup color creeping in, plus some subtle differences in perianth color. Most spectacular has been the range of finish on the corona, particularly in large-cupped seedlings, where frill, roll, and slight flaring have appeared in individual specimens. I put this variability down to Tunis—as I said it is a treasure chest, and it has on one occasion showed the ability even to transfer a pink adequately.

Given that I have used only four bloods over some fifteen years, I suspect that I have a tremendous scope for future development and I look forward to enjoying it to the full.

WHAT IS A REVERSE BICOLOR?

(from *CODS CORNER*, Newsletter of the Central Ohio Daffodil Society, April, 1984)

After the CODS meeting, a discussion was started by Handy Hatfield on the subject of what constitutes a reverse bicolor. With some of the newer introductions, the definition is going to need to be clarified.

According to the approved wording of the *ADS Handbook*, a reverse bicolor is a daffodil which has a corona that is paler than the perianth. It is generally accepted that this means a color coding of Y-W or YW-W. But not all reverses have a solid white corona. Some will end up with a band of yellow around the edge of the cup and some, for example *Cherish 2 Y-WWY* and *Citron 3 Y-WWY* (both Mitsch, 1983), are coded with the yellow rim and are considered by the hybridizer to be reverses. They will undoubtedly be placed on the show bench in reverse bicolor classes. Rightly so, to my thinking. My daughter, Vanessa, thinks that if a flower is rimmed yellow, the rim should be paler than the perianth when reversed—a good point according to the current description. Then we have the problem of when the flower was picked, since it is always difficult to pick it for the show at its peak of reversing.

That brings us to the next problem: where would we put *Silk Stocking 3 Y-GWY*, Dr. Throckmorton's 1977 introduction? Certainly its yellow rim cannot disqualify it from reverse competition. But does its green eye eliminate it? Or can we say that two thirds of its corona is paler than the perianth and it should be shown in the all yellow classes? I could not find an example, but it is conceivable that we could have a flower coded Y-GGW. It could be a reverse, but the above definition would eliminate it and it would be considered the same way as *Silk Stocking*.

Now it gets stickier. Ballydorn introduced *Golden Halo* this year. Bred from *Daydream* and *Moonspell*, both reverses, it is coded 2 Y-WWO; since when it reverses completely, the corona "is edged by a deep amber band." It could be shown as a reverse by our above definition since two thirds of the corona reverses to white. A similar situation is *Blanchard's Hambleton*, introduced by John Lea last year. It's also from *Daydream* and is coded 2 Y-Y fading to 2 Y-WWO. He describes the color of the rim as "a sort of buff apricot."

If we accept all of the above as reverses, should we then accept a Y-WWR as a reverse as well? It seems farfetched, but if we accept yellow and orange rims, why not red?

A very interesting problem Handy has given us. It would seem to merit some additional discussion since the problem is going to get worse and not better. My personal opinion is that a reverse bicolor is one in which the corona is predominately paler than the perianth and may be rimmed with the perianth color, but *not* contain any other color. A bit of an unwieldy description, but it seems more accurate for our purposes. Since it is supposed to be a bicolor and "bi" is from the Latin meaning "two" and the perianth would be yellow, it should not contain more than two colors and the other would have to be white. Now watch someone come up with R-Y, O-Y or P-W, but the above definition would still apply to them. Any other comments???????

DONNA DIETSCH, Columbus, Ohio

SOME COMMENTS ON THE YELLOW TRUMPETS OF OSCAR RONALDS

FRED SILCOCK, *Victoria, Australia*

(from the Australian Daffodil Society Newsletter, August, 1982)

There was a period prior to 1973 when one of the features of many a daffodil show was the range of yellow trumpets contained in the exhibits of Michael Spry. Without searching through show records of the time, one can only guess at what proportion of these magnificent displays was made up of daffodils raised by the late Oscar Ronalds. It is my belief that Michael's exhibits are made up of a great many of Ronalds's cultivars and of seedlings bred by Michael from Ronalds's stock.

Nobody appreciated the Ronalds yellow trumpets more than Michael did, and he had been able to acquire much of the Ronalds stock after the latter's death in 1955 at the age of 83.

Michael's evaluation of Big Keith (Ronalds), for example, is indicated in his catalogue of 1972 where part of the description of the cultivar reads, "One of the greatest golden trumpets ever raised." And in his 1964 catalogue we find the paragraph, "A large proportion of our stock of bulbs has been raised in Australia by ourselves or by the late Oscar Ronalds of Drouin—one of the greatest daffodil breeders who ever lived." Michael's catalogue of 1972 listed sixty-two yellow trumpets. From what I've been able to gather, fifteen of these were Ronalds cultivars; and of the many seedlings bred by Michael contained in that list, twenty had at least one Ronalds cultivar in its parentage.

I'm not suggesting that Michael merely followed the footsteps of Oscar Ronalds. As a hybridizer, Michael went his own way. He recognized the qualities of the Ronalds daffodils and he used them to help create the flowers he wanted. Other breeders whose work I know he drew upon in raising his yellow trumpets were Richardson, the Brodie, and the Fairbairns of Skipton. When he gave up daffodil growing some years ago he presented me with, amongst other things, a collection of his un-named, all-yellow seedlings; and these possessed much more refinement than could be found in any of the Ronalds cultivars that I had seen.

What was it that was so noteworthy about the Ronalds yellow trumpets? They were large flowers on tall stems; their color was strong and the petals had width and overlap. Substance was ample. They had an unfailing ability to grow well and the bulbs were very resistant to basal rot. Most of them were championship winners many times over.

Ronalds began breeding daffodils in the 1920s, but the lines he followed are unknown. His character and lifestyle may provide something of a mirror to his attitude towards breeding. He was a rugged man, an orchardist and dairy farmer. As a man of husbandry and agriculture, he would have understood the importance of sturdiness in all things, animals and plants, that must live their lives out of doors.

It is known that he imported from Lionel Richardson and Guy Wilson. Murray Gardiner of Warragul informed me that two of Oscar's yellow trumpet importations were Royalist and Principal. Eric Ronalds, son of Oscar, told me in a letter that his father exchanged bulbs with growers in New Zealand.

It is probable that, along with the Tasmanian breeders of the 1930s, he used that wonderful old trumpet Golden City bred by D.V. West and registered in 1923. I've always thought there was very much the Golden City stamp about the Ronalds yellows.

Michael Spry once told me he suspected that what we could call the Ronalds line sprung largely from a seedling which Oscar raised early on, a seedling which imparted great influence.

If Michael's suspicion is correct, that seedling could have been Golden Coin.

Keith Chandler of Warragul wrote me that he knew Oscar rated Golden Coin very highly. He went on to say, "I remember Oscar telling me that he used Golden Coin extensively in his breeding of trumpets." Keith continued, "Oscar's object in breeding trumpets was for form, texture, and vigor. He was very keen to have short necks so that flowers would not hang their heads. This, to me as a cut-flower grower, was a disadvantage; for that type of flower was rather hard to bunch, and heads sometimes snapped off."

Golden Coin was certainly in existence in 1935, although not registered until 1945. Travers Morrison's catalogue of 1952 describes it thus, "An outstanding show variety of rich yellow throughout. Very broad smooth perianth and well-formed trumpet. Price, one pound five shillings."

In the same catalogue, a description of Golden City goes, "One of D.V. West's finest varieties. A really fine flower of rich uniform golden yellow; broad firm perianth and well-proportioned trumpet. The plant is very tall, with a strong stem, and is unsurpassed either for show or garden. Awarded first prize as the best yellow trumpet, R.H.S. Melbourne and Canterbury, 1919. R.H.S. Melbourne 1920 and 1921. Price, one shilling and sixpence."

Keith Chandler commented further, "I do know that Oscar went in for line breeding and that once he established that a particular variety was a good parent he used it extensively."

Several years ago I put pollen of Royal Armour (Ronalds) and Golden Robin (Ronalds) on to Jobi (Jackson). I have bred from Jobi to an enormous extent, and have found it, as a seed parent, very sensitive to the pollen mate with which it is used. Seedlings from Jobi crosses are capable of wide variation. The seedlings resulting from the two above mentioned crosses, as groups, were so alike that merely by looking at them I could not tell them apart. To me, this suggests that at least Royal Armour and Golden Robin are closely related and may support to a small degree what Keith Chandler says about Oscar's line breeding.

In 1969, to commemorate the work of Oscar Ronalds, the Australian Daffodil Society established the Oscar Ronalds Perpetual Memorial Trophy. The competition calls for six Australasian-bred yellow trumpets, distinct cultivars, plus one vase of six to ten yellow trumpets of decorative type.

And what of Ronalds's yellow trumpets today? There are newer cultivars that outshine them as far as refinement goes, but whether these newer things will outperform them as garden subjects remains to be seen. Ronalds died almost thirty years ago. Judging him by his work, particularly in the context of his time, he is well-deserving of the tribute Michael Spry paid him.

In current catalogues one can still find the names Golden Robin, Golden, Golden Empire, Royal Armour, Tarago, and Gwen Fleming. Most of these have been champions many times over.

In a survey conducted by Dimi Betz, details of which appeared in the *Newsletter* of November, 1981, we find that in 1979 Gwen Fleming was awarded five first prizes at shows and in 1980 received ten first prizes.

At the Leongatha show in 1979, a winning collection of twelve distinct cultivars put up by Rodney Emmerson contained the approximately fifty year old Golden Coin.

In the January, 1982, *Newsletter* Peter Ramsay of New Zealand reported that the previous year Golden gained Reserve Champion at the National Show held at Howick.

In overseas publications on daffodils, the lamentation that golden trumpets are so hard to establish is not infrequently seen. Nearly always reference is made to their susceptibility to basal rot. This could be part of the reason why Brian Duncan of Ireland commented that not much progress has been made in yellow trumpets since Kingscourt (1938).

I think the serious hybridizer is letting pass him by a possible good thing if he does not round up as many of the Ronalds cultivars still available as he is able to lay his hands on and mate them with some of the newer things from other sources. The results I'm getting from such a program are pleasing me very much indeed.

Thankfully, Micahel Spry had the imagination to cross Ronalds's yellow trumpets with all-white trumpets. From some of these crosses there came white trumpets of exceptional substance and vigor. Michael generously gave me a range of these seedlings, most under number, and as parents they are producing offspring of great quality.

GROWING DAFFODILS IN MINNESOTA

JULIUS WADEKAMPER, *Elk River, Minnesota*
(from the Daffodil Society of Minnesota 1982 Yearbook)

I find that daffodils, like lilies, prefer excellent drainage. My soil is sandy-loam and by nature drains very well. Nevertheless, in an experiment, those daffodils planted in raised beds performed far better than those in non-raised beds.

In 1977-78, I planted thirty bulbs of similar cultivars in raised beds and thirty bulbs of similar cultivars in non-raised beds. The results were convincing. The daffodils in the raised beds grew far better, bloomed more, increased faster, and performed better in every way than those in non-raised beds. After three years, those bulbs planted on the level ground continued to perform poorly and some were gone completely.

Daffodils prefer organic matter in the soil, well composted. I build my raised beds with well-rotted material from the compost bin. To this I add ten pounds per square foot of ground limestone. My soil pH is about 5.8. I also sprinkle on five pounds of 10-10-10 fertilizer per 100 square feet of bed. All this is rototilled together two or three times. After rototilling, I rebuild the edges of the beds and let them settle for one or two months before planting.

At planting time, usually around Labor Day, I retil the beds and then plant the bulbs. I place one tablespoon of superphosphate under each bulb, mix it thoroughly into the ground and cover it with about ½-inch of clean soil. I set the bulb on top of this clean soil and cover it with six inches of soil.

After planting, I mulch the beds well with pine needles to keep the moisture in and keep the ground cool for root development. I've re-dug a bulb about a month after planting and found nice, long, white roots had developed.

About November 1, I mulch the beds with six inches of slough hay. I use Reed's Canary grass cut in the fall after all the seeds have fallen out. This keeps the soil warm for the winter in case we lack snow.

In spring, I remove the hay, leaving the chaff on top of the pine needles to protect the soil. It keeps the ground covered, and thus the soil does not splash up on to plants during the spring rains.

So far I have had very good luck growing daffodils by this method here in Minnesota. The bulbs increase well. I also side dress the plants with a sprinkling of 5-10-20 or similar ratio fertilizer in the spring when they are two to three inches high.

Some cultivars increase better than others, but I have gotten up to twenty bulbs for one after four years down. My collection now numbers 506 cultivars.

A 'MAJOR' FORM OF *Narcissus viridiflorus*

L.S. HANNIBAL, Fair Oaks, California

The writer has grown *Narcissus viridiflorus* for some forty-odd years. One set of bulbs came in from Casablanca; others came from Sydney Mitchell and other friends about the San Francisco Bay Area. All were planted back in an unwatered part of the yard and did well until an old apple tree overshadowed the area. The bulbs then went into decline. So I salvaged a few bulbs and potted them up in coffee cans, soaked them in, and near forgot them while they baked in the sun.

Much to my surprise one set of bulbs produced summer foliage practically the diameter of a lead pencil and some 30 to 35 inches long. At first I thought some rushes had gotten into the potting soil, but in September I noted blossoms. That was queer! I'd never seen *N. viridiflorus* with foliage more than a millimeter or two in diameter and rarely taller than twenty inches previously, nor flower so early. Was this a fluke?

So I kept an eye on the cans which were left in the open sun for another year. Every two or three weeks during the summer I flicked the garden hose in their direction for a slight dampening. Sure enough, the same heavy foliage reappeared in mid-summer on one set of bulbs. Flowers appeared in mid-September and set quite a seed crop. The normal forms threw foliage six weeks later and flowered in late October on 16-18 inch scapes.

As I recall, Dr. Fernandes reported that *N. viridiflorus* has a chromosome count of $2n=28$, a tetraploid. A search of E.A. Bowles's, William Herbert's, J.G. Baker's, and John Weather's publications on bulbs make no mention of leaf diameter (5-6 mm for the specimen when 2 mm is maximum for the normal forms). At the moment the writer is not about to disturb these bulbs but he seems to recall that this large-leaf-form had slightly larger bulbs. On checking the blossoms the cups were found to be typically crenate and lobed, but the petals were near two millimeters wide and slightly shorter than the lesser form. Thus the diversity between the normal form and this 'major' appears to be considerably more than mere polyploidism; quite likely one involving a distinct morphological difference. As a result we possibly have a new species, or a very distinct variant.

In the past the *N. viridiflorus* has been considered a primitive narcissus. The writer's views differ in that this plant's unique form is an ecological adjustment where most plant parts are reduced to a bare minimum in order to adapt and exist under arid desert conditions. Somewhat similar modifications occur in many other plant species where desert conditions have lead to special adaptive measures. My opinion is that this so called 'major' form has not made as drastic an adjustment and adaptation as has the better known form with the slender 2 mm foliage. One question remains. By chance did Dr. Fernandes happen to make his chromosome count with this 'major' form? If someone has access to his reports, it would be of interest to check this plant out; otherwise fresh seed can be sprouted to make root tip examinations. Yes, fresh seed in the case of *N. viridiflorus* can be germinated some four or five weeks after it ripens.



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LIGHT WORK

DON BARNES, *Sheffield, England*

(reprinted from the *Daffodil Society (Britain) Journal*, February, 1980)

Light as an influence upon the growth of plants is being extensively researched by the theoretical biologists, and this influence is usually referred to as photoperiodism. In simple terms the amount of light is a major "trigger" mechanism and in many plants, perhaps in combination with temperature, significantly affects the development of the flower buds. Plants of different types respond in different ways to the length of the day; some require lengthening days to induce flowering, e.g., the dahlia, whilst some require a shortening of the day, e.g. chrysanthemums. By the careful use of artificial lighting it should be possible to affect the time of flowering of most plants.

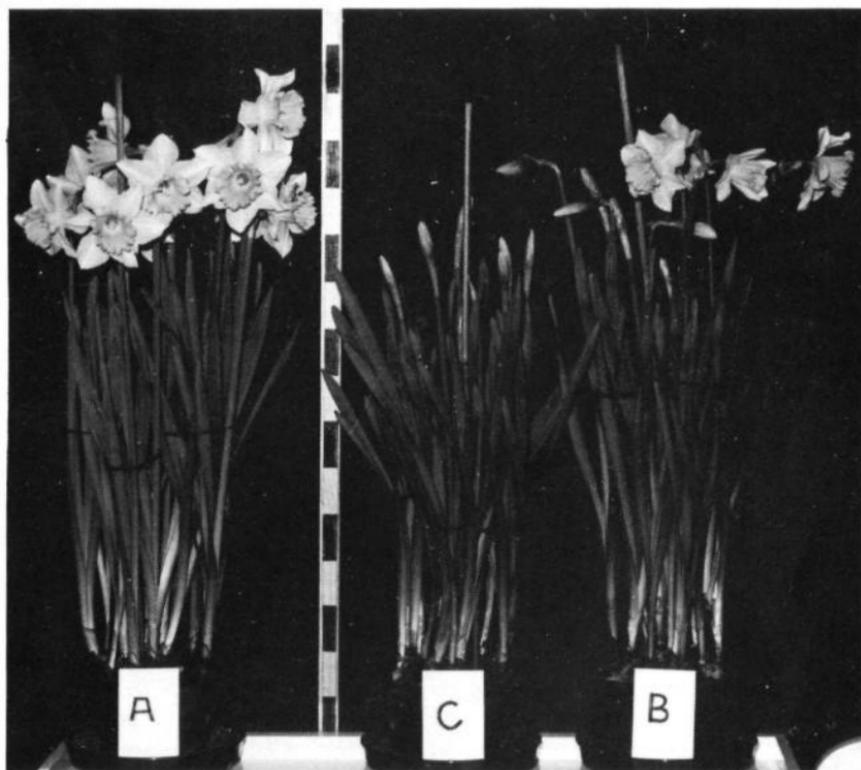
There are various combinations of day length and darkness both in theory and practice. Usually one would look for a minimum period of light of a high enough intensity to promote growth followed by a minimum period of darkness to permit growth to be consolidated. It can be assessed that for proper growth the daffodil requires a minimum light period of some twelve to thirteen hours. Thus the daffodil probably falls into the classification of a long: short day plant. Daffodil flowers develop rapidly as the days lengthen and come to fruition as the days shorten as a result of overhead leaf shading, and we all know how rapid the development can be on a sunny day and how flowers can be held back by darkness.

Some simple experiments have been carried out.

The first experiment used 5½ inch pots of Carlton. Three pots at approximately the same stage of bud development were used after they had been out of plunge for about two weeks. One pot, the control, was kept in a north facing room where the temperature ranged between 45°F and 55°F. This control received natural daylight for approximately eleven hours per day, but the light was of low intensity. The other two pots were again kept in a north facing room where the temperature range was 45°F to 57°F. These two pots were placed under a pair of fluorescent light tubes which were hung from a frame support. The height of the tubes was regularly adjusted to keep them ten inches above the tips of the leaves and emerging buds, and the tubes were kept lighted for twelve hours per day. Thus the two pots received illumination approximating that of a sunny day every day. The bulbs under the lights developed very substantial flowers both in terms of size and thickness of perianth, and were in flower well in advance of the control pot even though the temperatures were almost identical. The results are summarized below.

Day Number	Pot A	Pot B	Pot C (control)
1	height 250mm	height 255mm	height 260mm
6		first bud burst	
8	height 300mm	height 295mm	height 265mm
11	first bud burst		
16	height 375mm seven buds burst one flower fully open	height 345mm four buds burst	height 325mm
21	eleven buds burst five flowers fully open	seven buds burst two flowers fully open	first bud burst

The results at day 21 are shown in the photograph.



Thus, even with temperatures below 60°F, pots under the lights had shown the ability to bloom in three weeks. After the twenty-one days under the lights, the experiment was altered in so far as each pot was subjected to natural daylight but in different conditions which gave interesting results—

Pot A—placed in room at 65°F to 75°F range. Rapid growth of stems, flowers rapidly lost substance and faded in seven days.

Pot B—kept below 60°F, flowers continued to develop and retained substance, stems lengthened only slowly. Flowers showed first signs of fading after twelve days.

Pot C—kept between 45°F and 55°F, flowers almost in suspended animation, development very slow and after fourteen days flowers not properly developed.

The inference is that once light has stimulated growth it cannot be switched off, but can perhaps only be slowed down. The plant has been persuaded that it is time to flower and provided a reasonable temperature is maintained and some light is available the flower will develop. Lower temperatures allow substance to be achieved.

As everyone will recall, 1979's spring was delayed. The snows and frost meant that the main bulbs could not go out of the plunge before the 11th March. Following the assessment of the first experiment it was decided that a further experiment should be tried. Four pots were taken straight from the plunge and placed under the fluorescent lights. The pots were identical 9-inch plastic pots, filled with J.I. No. 3 compost but the bulbs were Palaverer, Finery, Matapan, and

Scio which normally flower at different times. When the pots were placed under the lights the buds of Palaverer were clearly visible. Temperatures were increased slightly so that the range was between 50°F and 65°F and again a twelve hour period of illumination was given each day with the tubes being kept approximately ten inches above the leaf tips/buds. The key results were—

Day 1—average height approximately 100mm, leaves yellow

Day 2—leaves fully “greened”

Day 8—height ranged between 200mm and 310mm

Day 9—first bud of Palaverer burst

Day 11—1st flower of Palaverer fully open ready to develop substance, three other buds of Palaverer had burst; first buds had burst of Scio and Finery

Day 12—first bud of Matapan burst

Day 15—at least one fully developed flower available for each cultivar

It is interesting to note that there was no apparently harmful effect from the immediate exposure to the intense lighting. Therefore, is there any benefit to be gained from shading bulbs when they are taken from the plunge? The normal flowering sequence was unaffected and it should be possible to determine the number of days under lights which are necessary to bring a particular cultivar into peak condition, so perhaps we can “time” flowering. The lower the temperature the better the substance of the flower and the longer it holds condition.

These are not new techniques, but perhaps the experiences of the professional forcers of flowers and the theoretical biologist have been under-utilized for bringing on favorite flowers for particular shows or to give a wider range to select blooms for a particularly difficult class. It also means that any room or cool space could be used to bring on show quality flowers provided, of course, that there is a supply of electricity for the fluorescent lights.

Perhaps it proves that light is really the key factor in the development of flowers once the soil temperature has induced the growing tip of the leaves to emerge from the soil.

In the conventional forcing of daffodils we go for the higher temperature to get early flowers which usually lack substance. It may be the low temperature with a high intensity of light which gives better flowers and a control over the flowering date, but we must not forget that a flower which “burns” in sunlight will burn under the high intensity light from fluorescent lights. Perhaps it is something to reflect upon before further experiments are carried out in 1980.

(Correspondence with Mr. Barnes has resulted in the following epilogue.—Ed.)

Formal experiments have not been repeated since 1979, but since that time various modifications have been made to the equipment used for positioning the fluorescent tubes over the growing bulbs and ensuring that a wide range of cultivars have been used as subjects.

The technique was really put to the test in 1983 when three pots of a limited number of cultivars were grown. Accepting the fact that all blooms from one cultivar grown in one pot all reach peak condition at different times it was possible to ensure blooms were ready for early shows and still have blooms available for the main shows to match into vases of three blooms. By advancing the flowering using only the effect of light the remaining bulbs and blooms could develop naturally to perfection or be themselves “forced” without showing the usual effects of being forced.

Because of the low temperatures, watering and feeding need careful attention and control. Best results have been obtained by standing the pots of bulbs in

plastic saucers which are used to keep a quarter of an inch of water at the base of the pot. Water is applied to the top of the pot always at the ambient temperature and always as a 20% of normal strength solution of a high potash liquid fertilizer. After watering, excess water is drained from the saucer to leave the necessary limited residual amount. Occasional mist spraying of the foliage appears beneficial about one hour before the lights are turned off each "day" to stimulate the effects of a heavy dew.

Cultivars which have responded particularly well to these techniques include Woodland Star, Daydream, Empress of Ireland, Galway, Gay Kybo, Seraph, and Unique.

The techniques are being further refined to get a better assessment of the combined effects of temperature and light, but the fluorescent tubes are now an essential part of my growing regimen.

A FEW STATISTICS

FRANCES ARMSTRONG, *Membership Chairman*

The American Daffodil Society grows slowly but steadily. The computer print-out of February 22, 1984, lists 1,689 members. A year earlier the computer spewed out 1,652, while in February of 1982 the number was 1,604. Of these 1,689 there are 170 life members. We have 100 family memberships which are counted as two each, or 200, in the total. Included in the list also are a few non-dues paying memberships such as exchange memberships with other plant societies and several complimentary memberships to governmental agencies.

Middle Atlantic Region has the largest number of members, 21% of our total, while Central with 84 members represents 5%. The size of our membership in foreign countries is truly amazing. We currently have 173 members from outside the U.S.A. representing seventeen countries. Japan barely edges out England, 35 to 34, for the honor of being our largest foreign group.

A year ago we could boast of at least one member from each of our fifty states. Sadly, this year we have no members in North Dakota, Utah, or Nevada.

From February, 1983, to February, 1984, 259 new members were enrolled, over 15% of our total membership. But the other side of the coin is that we lost 222 members, giving us a net gain of only 37. A few of these transferred from one state to another, a few of the lost members were deceased, but the majority either resigned or failed to renew. If we could cut these losses in half, we would be a rapidly growing organization.

Growth in membership enables us to have a larger *Journal* with colored photographs of our favorite flower, more newsletters and other publications, increased research, additional services, test gardens, and awards. Each member can bolster our numbers by taking every opportunity to boost the Society, by submitting newspaper and magazine articles on daffodils including information on joining the ADS, by talking to garden clubs and other groups, by giving memberships to friends and garden clubs, by organizing and participating in local daffodil societies and daffodil shows. You may think of other ways.

A summary of our membership from February, 1983, to February, 1984, follows with the name of the region and state, the number of present members, the number of members who withdrew for whatever reason, the number of new members joining within the year, the number of members belonging in February, 1983, and the number of ADS Board members from each state and region.

	Members 2/84	Out	New	Members 2/83	Board Members
NEW ENGLAND REGION:					
Connecticut	45	- 7	+ 3	49	2
Maine	3	- 4	+ 0	7	0
Massachusetts	41	- 3	+ 8	36	1
New Hampshire	21	- 2	+ 9	14	1
Rhode Island	4	- 0	+ 1	3	0
Vermont	8	- 1	+ 1	8	1
Westchester Co., NY	10	- 2	+ 2	10	0
	<u>132</u>	<u>-19</u>	<u>+24</u>	<u>127</u>	<u>5</u>
NORTHEAST REGION:					
Delaware	15	- 0	+ 2	13	2
New Jersey	54	- 5	+ 9	50	0
New York	34	- 8	+ 3	39	0
Pennsylvania	77	-12	+12	77	4
	<u>180</u>	<u>-25</u>	<u>+26</u>	<u>179</u>	<u>6</u>
MIDDLE ATLANTIC REGION:					
District of Columbia	10	- 0	+ 4	6	0
Maryland	87	- 8	+10	85	4
Virginia	238	-24	+20	242	6
West Virginia	19	- 4	+ 0	23	0
	<u>354</u>	<u>-36</u>	<u>+34</u>	<u>356</u>	<u>10</u>
SOUTHEAST REGION:					
Florida	8	- 1	+ 3	6	0
Georgia	44	- 6	+ 3	47	3
North Carolina	51	- 4	+15	40	1
South Carolina	17	- 4	+ 1	20	2
	<u>120</u>	<u>-15</u>	<u>+22</u>	<u>113</u>	<u>6</u>
MIDWEST REGION:					
Indiana	43	- 6	+ 8	41	3
Michigan	13	- 8	+ 7	14	0
Ohio	126	-16	+16	126	7
	<u>182</u>	<u>-30</u>	<u>+31</u>	<u>181</u>	<u>10</u>
SOUTHERN REGION:					
Alabama	21	- 0	+ 2	19	1
Kentucky	34	- 1	+ 3	32	2
Louisiana	12	- 2	+ 5	9	0
Mississippi	27	- 3	+ 1	29	5
Tennessee	55	-10	+13	52	5
	<u>149</u>	<u>-16</u>	<u>+24</u>	<u>141</u>	<u>13</u>
CENTRAL REGION:					
Illinois	25	- 3	+ 2	26	0
Iowa	14	- 0	+ 0	14	2
Kansas	11	- 3	+ 2	12	0
Minnesota	15	- 2	+ 3	14	2
Missouri	12	- 2	+ 7	7	1
Nebraska	3	- 1	+ 1	3	0
South Dakota	1	- 0	+ 0	1	0
North Dakota	0	- 1	+ 0	1	0
Wisconsin	3	- 3	+ 1	5	0
	<u>84</u>	<u>-15</u>	<u>+16</u>	<u>83</u>	<u>5</u>

SOUTHWEST REGION:

Arkansas	55	- 9	+10	54	3
New Mexico	4	- 1	+ 0	5	0
Oklahoma	12	- 3	+ 3	12	0
Texas	42	- 5	+ 4	43	4
	<u>113</u>	<u>-18</u>	<u>+17</u>	<u>114</u>	<u>7</u>

PACIFIC REGION:

Alaska	1	- 0	+ 0	1	0
Arizona	2	- 0	+ 1	1	0
California	111	-19	+20	110	6
Colorado	8	- 0	+ 0	8	0
Hawaii	1	- 0	+ 0	1	0
Idaho	3	- 0	+ 0	3	-0
Montana	1	- 1	+ 0	2	0
Nevada	0	- 2	+ 0	2	0
Oregon	46	- 2	+13	35	0
Utah	0	- 1	+ 0	1	0
Washington	28	- 2	+ 6	24	0
Wyoming	1	- 0	+ 0	1	0
	<u>202</u>	<u>-27</u>	<u>+40</u>	<u>189</u>	<u>6</u>

OUTSIDE THE U.S.A.:

Australia	24	- 2	+ 3	23	0
Canada	14	- 6	+ 4	16	0
Czechoslovakia	2	- 0	+ 0	2	0
Denmark	1	- 1	+ 1	1	0
England	34	- 3	+ 7	30	0
France	1	- 0	+ 0	1	0
Holland	14	- 0	+ 2	12	0
Ireland	3	- 0	+ 0	3	0
Israel	1	- 0	+ 0	1	0
Italy	1	- 0	+ 0	1	0
Japan	35	- 6	+ 3	38	0
New Zealand	26	- 1	+ 3	24	0
Northern Ireland	8	- 1	+ 1	8	1
Qatar	1	- 0	+ 0	1	0
South Africa	1	- 0	+ 0	1	0
USSR	3	- 0	+ 0	3	0
West Germany	4	- 1	+ 1	4	0
	<u>173</u>	<u>-21</u>	<u>+25</u>	<u>169</u>	<u>1</u>
TOTAL:	<u>1689</u>	<u>-222</u>	<u>+259</u>	<u>1652</u>	<u>69</u>

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PINK DAFFODILS IN JAPAN

AKIRA HORINAKA, *Osaka, Japan*

(from the Newsletter of the Tasmanian Daffodil Council, November, 1983)

In Japan, *N. tazetta* var. *chinensis* Roem is the only variety which is seen naturalized. This variety is believed to have come from China through the Silk Road. It starts to bloom in November in the warmer districts so that it is widely used for cut flowers. Several places where it grows in numbers are tourist resorts.

Daffodil lovers have imported Mrs. R.O. Backhouse and Beersheba from Europe since around 1926, and Paperwhite, Soleil d'Or, and King Alfred were used as cut flowers. For some time after the war (1945), both Fortune and Mount Hood were cultivated in large quantity as cut flowers and garden flowers respectively. For others, there were about twenty old, well-known cultivars. In the present day, the lovers collect new cultivars from other countries; while on the other hand, old and famous cultivars such as Tahiti are seen on the market so that it is getting to be widely known. Unfortunately, there is no society for daffodils in Japan, thus it is hard to state in detail.

The author has referred to many cultivars in the *Yearbook* of the RHS in 1967 and *ADS Journal* of 1968. I hopefully believe that the people who have read these articles have come to know a part of the new cultivars which I collected in those days which were still not present in Japan. I have introduced these new, excellent cultivars in Japan in many magazines, books, and dictionaries in the past.

For every division, I am growing new, excellent cultivars such as Gold Convention, Glenfarclas, Teal, April Love, White Star, Creag Dubh, Fireraiser, Toby, Lilac Charm, Canary, and Foundling besides many well-known cultivars introduced by Mr. Lionel Richardson and Mr. Guy L. Wilson, but for this article I have referred only to pinks. I hope you will be much interested in them.

Pink Trumpets: First of all I got Karanja from Ireland and Alpine Glow from Holland. I saw these flowers and I became much interested in Tasmanian pinks.

I have had Egina since 1964 and I think it is a deep pink of the finest form. Of all the pink trumpets I have collected, Bon Rose has an especially beautiful, slender, pink trumpet and it is the most attractive flower. Petina is a lovely pink trumpet, and Pink Delight is a rosy-pink trumpet of nice form. Also I collected some old cultivars such as Pink Bonnington. Though some of them are pale pinks, they have magnificent trumpets which are of a different type from European and American pink trumpets. I think pink trumpets of show type are quite scarce, as you know.



Bon Rose



Petina

Rima, raised in America, is good for gardens; and I am much interested in the fact that its pollen parent is a Tasmanian pink. At Dawning, Del Rey, and Brookdale raised in America, and Farnsfield, raised in England, are growing in my garden. I am looking forward to the blooming of Pink Silk of new introduction.

Vision is a rosy-pink and Sedate is a lovely pink, both of which were raised in New Zealand. Also I am looking forward to the blooming of Eiko.

Tasmanian Veneration is a clear mid-pink of lovely form and I am anticipating the bloom of Melancholy. I found some huge pink trumpets with broad perianths among the seedlings sent by a kind Tasmanian hybridizer.

Pink Large Cups: I obtained some excellent pinks such as Romance and Jewel Song from Mr. Richardson of Ireland. Now in Japan, Romance and Salome are becoming popular. Earlier, in our country, Mrs. R.O. Backhouse was popular.

About the same time, I imported Rosario from Ireland and then I became interested in Australian pinks. I also had Mrs. Oscar Ronalds. The former is a fine trumpet-shaped cup of light pink and the latter is a large cup of deep rosy-pink.

Since then I began to grow other Australian pinks and American pinks. In 1966 I had about a hundred cultivars from Victoria. Deep pinks among them were Tarago Pink, Best Wishes, and Salad Days.

Roseworthy, raised in England, is the deepest rosy pink. Since a seedling from New Zealand was of the same deep color, I paid much attention to these deep rosy pinks. Accent and Fionn are outstanding for their intense reddish-rose coloring, and in recent years some nearer red have been raised in America. I have found Rubythroat, Cool Flame, Decoy, Pipestone, and others to be flowers of strawberry red or cherry red colorings. Very large cups have been raised in America and among them Erlrose, Chromacolor, and Emphasis are good for garden planting.

Dailmanach is a pink of the finest form, and Fragrant Rose has a distinctive fragrance like a rose.

I imported some pinks from New Zealand in 1967. Among them, Dresden China had a lovely pink cup. Later I got Divine and Profusion, both of which have trumpet shaped crowns. The former is deep pink and the latter is coppery-rose.

Among Tasmanian pinks, old Dallbro and Natee are very beautiful. Among trumpet shaped crowns there are many cultivars; Kimi, Solinus, and Kuprena have fine forms which are very impressive. Both Jan Maree and C.E. Radcliff [1 W-P] are intense deep rose.

Vahu, Vasco, and Vital are nicely formed pinks, and I'm looking forward to blooming Obsession in the spring of 1985. My Word is deep reddish-rose and this cultivar blooms the earliest every year in my garden. My favorite cultivars are Verran, Dear Me, and Vanessa for their most beautiful forms with long cups. Also I found very nicely formed pinks and lovely colored pinks among many seedlings which had been sent by a kind Tasmanian hybridizer. I am certain that the most attractive pinks will be raised in Tasmania.



PHIL PHILLIPS

The American Daffodil Society is saddened to learn of the sudden death of Phil Phillips on March 23, 1984.

A breeder of both cattle and daffodils, he travelled widely as a worldwide ambassador of the daffodil, generating enthusiasm wherever he went. Always helpful and willing to share his storehouse of knowledge, he was the recipient of the RHS Peter Barr Cup in 1979. He had been a member of the ADS Board of Directors, and in 1983 was awarded the ADS Gold Medal. He was a past president of the National Daffodil Society of New Zealand, and was instrumental in bringing two world conventions to New Zealand.

For the last ten years, 25,000 to 30,000 POPS (Phillips open-pollinated seed) and later PURCS (Phillips un-recorded cross seed), daffodil seeds were distributed yearly. Many a garden is brightened each spring with flowers of his raising—Demand, Modulux, Bar None, Trelay and Backchat to name only a few—as he brightened the lives of those he met.

The ADS has lost a good friend. To his wife, Esme, and his six sons, we send our sincere sympathy and sense of loss.

ONE THAT NEARLY GOT AWAY

(from the Daffodil Society, (Britain) Newsletter, Summer, 1983)

Nothing gave more pleasure during the 1983 daffodil season than the time spent in Cornwall at the invitation of Dan duPlessis and his good lady. It was a glorious opportunity to visit the bulb fields, to peruse the flowers at leisure and to enjoy the hospitality proffered.

An added bonus was transportation to Rosewarne Experimental Horticultural Station to see how the things we usually only read about actually occur. It was the Sunday morning that a group of nine including the legendary lady, Barbara Fry, began the tour of the beds and in the third row it appeared that one of John Lea's as yet unnamed seedlings had found its way into the bed—there, head and shoulders above its neighbors, was a large, beautifully formed 2 Y-R with smooth ironed perianth and tubular cup.

We continued the tour of inspection amid much conjecture as to how such could occur in a scientific establishment, when, blow us all down, there was a whole bed of this same magnificent 2 Y-R. There was a quick rush to read the name label which revealed Sealing Wax. "How did we miss it?" "Where have you been all these years?" and similar questions were being raised but there was no doubt that it was a superb big show flower.

Dan was able to tell us, with a twinkle in his eye, that not only does he have a fair stock, but that it was priced at no more than 60p per bulb.

It appears that this old-timer, raised by Mr. Barr and registered by Wallace and Barr in 1957, had been taken by Rosewarne and had been given their famous cleaning-up process and we had seen the results of their endeavors. Needless to say a number of bulbs were purchased and it will be interesting to see if the show benches in 1984 can cope with the one that nearly got away.

REG NICHOLL, *England*

TAZETTAS 50° NORTH

ANDREW A. TOMPSETT

Rosewarne Experimental Horticulture Station, Camborne, Cornwall, England

Popular legend tempts us with the romantic possibility that Phoenician traders seeking tin and other minerals in Cornwall first brought *Narcissus tazetta* bulbs to the Isles of Scilly in about 1000 BC. Finding the islands to their liking, the bulbs survived down the ages until the present day.

A more likely conjecture is that bulbs were brought by Benedictine monks some time before the dissolution of the monasteries in 1534. Monastic enclaves, with links in the south, then existed in northern France, Cornwall, and Tresco on the Isles of Scilly, and the bulbs, together with many other plants, were probably freely exchanged for their beauty or medicinal properties. Today, the Isles of Scilly revel in this diverse flora, all the more surprising in view of their northerly (50°) latitude. Lying off the western tip of Cornwall's Land's End peninsula, their small size in the vastness of ocean and the warming influence of the westerly air flow gives the islands one of the most equable climates in the whole of Europe prompting the name of "the fortunate isles."

Recent historical facts are a little more certain. Commercial narcissus growing began there 100 years ago shortly after the completion of the railway which links London and West Cornwall. William Trelvelick began to collect together stocks of bulbs which hitherto had been considered weeds, and he is attributed with the enterprise of having sent the first consignment of flowers to Covent Garden about 1879, packed in a hat-box. He received the princely sum of seven shillings and sixpence, an unexpectedly good return, which naturally aroused much interest. Others were not slow to see the possibilities, and encouraged by the Lord Proprietor of the islands, Lt. T. Algernon Dorrien Smith, commercial growing was quickly established. In 1882, he visited Holland and introduced 190 varieties of bulbs and spent £10,000 on stocks and equipment. Stocks were also obtained from the nurseries of Messrs. Ware and Barr including *Incomparabilis*, *Barri*, and *Ornatus* hybrids. Such was the expansion of flower growing that the volume of flowers despatched annually during the 1930s reached 1200 tons. Although today the tonnage is much less, the trade remains an essential part of the islands' economy, and together with summer tourism provides an ideal combination sustaining a good standard of living for the islands' 2000 inhabitants. This contrasts sharply with periods of desperate poverty in the past.

Supreme amongst Scilly's products is *Grand Soleil d'Or*, and this together with other tazettas accounts for 40% of the 450 acres of bulbs. The *Soleil d'Or* stock shows little variation and is characterized by its good perianth and rich orange cup. It contrasts with several other tazettas where many inferior strains exist.

Recently, the Glasshouse Crops Research Institute has produced virus free *Soleil d'Or*, thereby restoring the overall quality and vigor recalled by the elders of the growing fraternity. Now, enterprising growers have promoted "Super Sol" and are achieving increased returns for the improved stock.

The virtual freedom from frost, warm but not over hot summers, and some rain at almost all seasons appear to suit tazettas; and recognizing this unique production the Ministry of Agriculture has established a sub-station of Rosewarne on the islands. On our two and a half acre site, a wide range of cultural aspects have been studied and advice made available to the growers. On the aspects most keenly followed is the progress of advancing techniques to achieve as long a

succession of flowering as possible during the period when the rest of the UK is in the grip of winter.

The well established and traditional method of advancing Soleil d'Or is by burning over in June/July. Despite years of speculation and theory, only very recently has an explanation been obtained for this response. It appears that during burning over, smoke, containing traces of ethylene, enters the soil breaking the bulbs' dormancy and encouraging rapid growth. Until 1976, burning over was carried out with the assistance of up to eight tons per acre of straw which was spread over the bulb fields and carefully burn against the wind. The effect of such treatment is to advance flowering of Soleil d'Or by about two to three weeks. With the increasing cost of straw, almost all of which was imported into the islands, an alternative was sought; and from 1977 onwards, most burning over was done using propane gas burners which ignite surface debris, producing equally good results. We were surprised to find that in trials where several successive propane burning treatments were used in the season, increasingly early growth occurred (see Table I). This suggested that the bulbs responded to "doses" of burning over which was a valuable finding although difficult to explain at the time.



Tractor mounted propane burning unit.

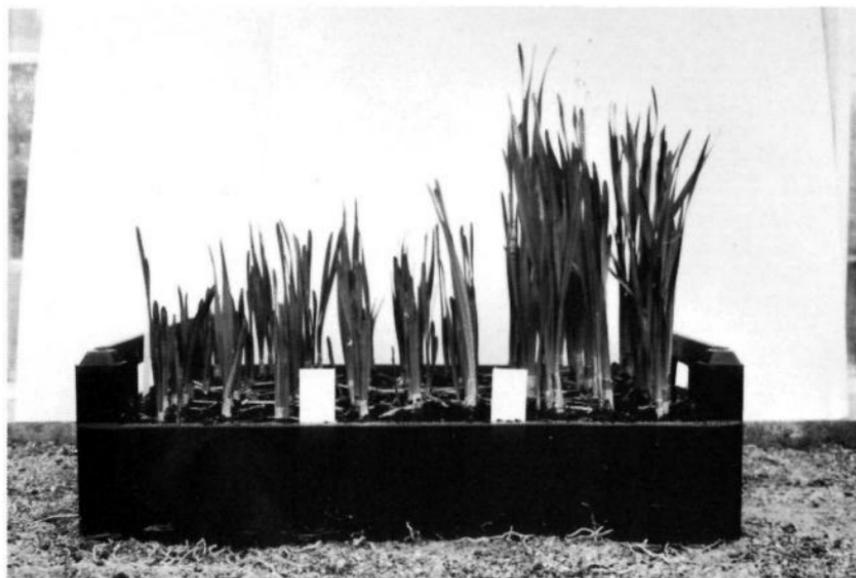
Now that we understand the role of smoke, this can readily be appreciated; and 'multiple burning' using propane is the standard treatment whilst also performing a very useful cleaning up function by destroying weed, weed seeds, and old foliage bearing fungal spores.

Prior to the development of multiple burning, several other advancing techniques were studied and some adopted by growers eager to produce profitable pre-Christmas crops. Bulbs may be lifted in May, warm stored followed by hot water treatment, and replanted in June. This often results in November flowering, but is unreliable, since in practice bulbs may flower sparsely, and with dry summers regrowth can be delayed. Also, of course, only limited amounts of bulbs can be handled on such a strict schedule.

What was needed was a method, like burning over, that could be used on large areas of bulbs in the field; and so from 1974, trials with clear polythene coverage were tried and seemed to hold the answer. Periods of four to six weeks coverage from mid to end of May gave excellent advanced crops, especially when combined with burning over after removal of the film. The technique was quickly taken up, but as trials data was gathered it became clear that, unlike burning over which maintains good long term yields, the polythene covering technique depressed flowering in subsequent years. However, despite this some growers persisted with it, arguing that early high prices justified the risk of a 'thin' crop the next year. By 1980, the use of polythene for *Soleil d'Or* had virtually ceased; but surprisingly it has been readopted in the past two seasons, this time as a means of smoke treating bulbs in the field. The technique is much the same as before except that crop defoliation and polythene coverage is rather later—say early June. The period of coverage is only two or three weeks during which smoke is pumped under the sheeting on several occasions. The combined effect of heating and smoking produces very marked advancing effects in several tazettas, especially *Paper White* and *Soleil d'Or*, and we think stocks will remain productive the following year. In addition smoke is being successfully used in stores at 30°C to advance flowering, but this is likely to remain a minority usage in view of the higher cost.

Using these techniques, *Paper White* is being picked in November, advanced *Soleil d'Or* in December, followed by untreated crops in January, and other tazettas such as *Grand Primo*, *Scilly White*, and *Avalanche*, though not all of these respond to treatment (see Table II). Then follows a large range of daffodils flowering in succession in February. Other cultivars are available in March; but as prices fall and competition intensifies, the Scillonian farmer turns his attention to iris followed by early potatoes, and of course the reawakening tourist trade.

Some of the recent findings have produced some striking results, but no one doubts that there are yet further advances to be made as we look more closely into the fascinating behavior of bulbs. As for Scillonians, they are not content to rely upon the favorable climate of their islands but are keen to exploit new findings which can improve production in this northern outpost of tazetta growing.



Soleil d'Or—bulbs on the right show advanced growth due to smoke treatment.

TABLE I

SOLEIL D'OR MULTIPLE BURNING OVER

<u>Treatment</u>	<u>Flowering period</u>	<u>50% pick date</u>
Untreated	9 January-28 February	8 February
Burnt over once	22 December-23 February	27 January
Burnt over twice	16 December-16 February	14 January
Burnt over 3 times	2 December-16 February	10 January

TABLE II

TAZETTA NARCISSUS EFFECT OF BURNING AND SMOKING

<u>Variety</u>	<u>Date by which 50% picked</u>		
	<u>Untreated</u>	<u>Burnt over</u>	<u>Smoked</u>
Paper White	16 December	19 November	10 November
Soleil d'Or	15 January	1 January	7 December
Scilly White	3 February	27 January	21 January
Grand Primo	18 February	29 January	26 January
Avalanche	9 February	10 February	10 February
Gloriosus	26 January	27 January	27 January

TABLE III

METEOROLOGICAL DATA - ISLES OF SCILLY

	<u>Long term monthly averages</u>											
	<u>J</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>M</u>	<u>J</u>	<u>J</u>	<u>A</u>	<u>S</u>	<u>O</u>	<u>N</u>	<u>D</u>
Mean temperature °C	7.7	7.3	8.5	9.7	11.7	14.3	16.0	16.5	15.2	12.7	10.3	8.6
Rainfall (inches)	3.6	2.7	2.5	2.1	2.2	1.7	2.2	2.5	2.5	3.6	3.6	3.5
No. of air frosts	0.9	1.9	0.8	-	-	-	-	-	-	-	-	0.3

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LANDSCAPING WITH DAFFODILS, HEMEROCALLIS AND DECIDUOUS SHRUBS

JOAN COOPER, *St. Paul, Minnesota*

(from the Yearbook of the Daffodil Society of Minnesota)

Fifteen or twenty years ago we planted a shrub border on the west side of our front lawn. We used an assortment of small shrubs that would attract birds. Hoping to add color while the shrubs grew I ordered a number of low priced hemerocallis to face down the shrubs. When my first daffodil collection arrived a month or so later, it seemed appropriate to naturalize them between the hemerocallis. That proved to be a very good decision.

The dying daffodil foliage was covered as the hemerocallis started to fan out. Meanwhile the daffodils had plenty of sun to mature properly and even to multiply.

The shrubs grew taller and the hems needed dividing. I moved both the hemerocallis and the daffodils forward. A few daffodils were missed and these continue to thrive in the deciduous shrubbery blooming with the wild plums and bush cherries in a spring symphony.

Perhaps this idea should be limited to daffodils of proven vigor and single season hems. The heavy water requirements of reblooming hems could be too much for the daffodils.

A casual corner or border requiring a minimum of attention can be enhanced with daffodils and hemerocallis. This border has been a real joy for us and I recommend the combination, well mulched, in front of deciduous shrubs.

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An easy way to get rid of chipmunks is by putting $\frac{1}{4}$ cup vinegar (any kind) in the chipmunk hole, and if you have them cavorting around the patio, etc., use a sprinkling can with vinegar and they just disappear. Should they move to your next-door neighbor, pass this information along to them.

CECILE SPITZ, CODS Corner

GRANT MITSCH RECEIVES DIX MEDAL

Grant Mitsch, dean of American daffodil hybridizers, was awarded the Dix Medal of the Royal Dutch Bulbgrowers Association at the convention of the American Daffodil Society held recently in Portland, Oregon.

The medal was presented by Mr. Davis, Dutch Consul, on behalf of the Bulbgrowers Association. The medal, in honor of J.F. Dix, Heemstede, Holland, a well-known horticulturist in the bulb field, was presented to Mr. Mitsch to honor him for his outstanding work in the field of daffodil breeding.

Mr. Mitsch, who first grew gladiolus commercially, began growing daffodils as a hobby in 1933. A year later he did his first hybridizing, and by 1945 had developed many seedlings and decided to sell his gladiolus business and devote all his efforts to daffodils. In the ensuing forty years, he has registered over 600 hybrids, both miniature and standard, and in every division of the classification. In Divisions 5-7, largely neglected by breeders elsewhere, he has given us a complete range of color combinations and quality flowers. His reverse bicolors are justly world-famous, with his Daydream setting the standard for others to follow, being the first American-raised daffodil to win a First Class Certificate at the RHS in London. In pinks, too, he has, through careful breeding, taken us from the pale pink of Radiation—one of his early hybrids—to the deep pink, almost red, of Magician. Rima, one of the first pink trumpets, was one of his early introductions.

He has deservedly been the recipient of many honors, having been awarded the Gold Medal of the Men's Garden Club of America in 1964, followed by the American Daffodil Society Gold Medal in 1965. In 1968, the Garden Club of America bestowed its highest award, the Medal of Honor, on Mr. Mitsch, and in 1973 he was awarded the Peter Barr Memorial Cup by the Royal Horticultural Society of Britain.



GRIPSHOVER

Murray Evans congratulates Grant Mitsch.

GROWING MINIATURE HYBRIDS AND SPECIES IN PANS

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

It is now four years since I began to pursue seriously the collection of species and miniature hybrid daffodils. In this time I have been able to collect a fair quantity of bulbs and an equally satisfying number of "friends" who have shared bulbs, written, and generally made me feel very much a part of the daffodil world. I derive great pleasure from both. Interesting letters now come from many parts of the world, and an entirely new and most stimulating area of horticulture has opened up. It's great fun.

A master stroke of good fortune was to write to John Blanchard and then to go and see him and his garden. From him I have received a substantial list of really unusual bulbs, and in particular was able to see at first hand how he grows his bulbs of this type in pans. Trying my best to follow his good example, I have achieved a degree of moderate success which I have been asked to describe. What prompted this request was the sudden and quite unexpected blooming this spring of *N. gaditanus* obtained from John, which is reputed to be most difficult to flower. John asked me what I did and so I am sitting here in the middle of March, with my greenhouse full to overflowing with flowers, trying to remember precisely what was done in the last two years—for this is what must have produced these unusual results. I have changed procedure this year and it remains to be seen whether for better or worse.

Before going into details I would like to make a plea for pan culture in a protected area for these real miniatures. It is March 16th, and I have fine pans in full bloom of Rosaline Murphy, Stella Turk, Icicle, and many forms of *bulbocodium*. The *triandrus* are a shower of flowers with more to come. Looking round the garden an hour ago, all I could find was one very small twisted and damaged bloom on a clump of *b. nivalis* trying to push through a mat of grey and damaged foliage.

I use a cool greenhouse, fourteen feet wide and twenty-five feet long, covered to the ground with fibre glass. Two four-foot-wide benches run down each side, and the house is provided with a small Modine gas heater so that I can maintain 40°F no matter how cold it may be. I do not heat any higher. Sometimes due to lack of ventilation the temperature may go above that mark on a clear sunny day, but I give all the air possible and do not bother if the temperature drops to 35°F. The two benches are constructed of angle iron welded into place and the base are sheets of corrugated asbestos set onto the frame. This is in turn covered with a layer of coarse gravel to ensure first class drainage and the pans of bulbs, once in growth, are just placed on this. Watering was—and still is—by hose, overhead as needed. The results are good, but I am still trying to improve.

Bulb planting begins in early August and continues till early October as bulbs arrive, and I can expect my first blooms in early November. Not only do I have flowers throughout the winter but I can enjoy them and appreciate to the full the delicate beauty of some of the really small specimens. Hybridizing is of course a cinch, for there are all the blooms at waist height and under cover. No bending, no cold winds—everything under control. It works splendidly, and in my opinion there just is no other satisfactory way to grow bulbs of this type.

I have a daffodil flowering season of at least seven months (*N. serotinus* flowers in October) with a continually changing kaleidoscope of color, form, and interest. The greatest value of this system is that it enables you to control growing conditions, to provide the many species with just the balance of moisture and heat

that they require. They can receive water when needed in the right amount, they can be dried off at the right time without reference to the weather, and they can receive a real baking in mid-summer, which seems essential to some. The watchword to success is, I believe, control. I provide control in a greenhouse but it is equally possible to achieve the same results in a simple but well-constructed frame. It can be any size, narrow and long for ease of access if you prefer, and double plastic on a light wooden frame is first class and easy to handle.

I would like to quote briefly and in part from a letter which came to me as part of a miniature robin. "Some of my successes and *many failures* (my italics) are *bulbocodium conspicuus*. In the beginning it was one of the best until the cold winter of 1978-79 which stopped bloom for two years." "I have planted ten *cyclamineus* in two small clumps and get one flower a year." "After seven years down, *fernandesii* bloomed for one year." "*Wilkommii* took four years to bloom." "*Juncifolius*, *scaberulus* and *rupicola* have been planted several times; sometimes they come up, sometimes they are incorrect, and sometimes they do not come up at all."

These comments are all too common and I believe they arise in part because people will try to treat these small bulbs as they would a planting of Carlton or Ice Follies. It just will not do. So I would suggest if you are really keen on seeing a fine show of *rupicola* or *cyclamineus* then get them into pans. I should note that I have flowered all the bulbs mentioned above for each of the past four years, and once the bulbs were established, flowered them in profusion. So what do I do?

In the beginning I used both earthenware and plastic pans. I prefer earthenware and have now switched to this type entirely. These pans are generally known as "azalea pans" in the trade and range from four inches to twelve inches across with depths varying with the width. A pan is not the same depth as a pot of the same size and has a more pleasing proportion. The one I use most is eight inches across and six inches deep. I use a few larger ones and many of the six- and five-inch size. All pans are soaked in a very strong clorox solution and scrubbed spotlessly clean inside and out, even if new. Old pans are scrubbed to remove any accumulation of salts on the outside plus any algae. They sparkle when finished.

SOIL MIXES. I would refer you to an excellent article in the RHS *Daffodils 1977* by Lord Skelmersdale, titled "Potophilia." I used his information but did not follow it exactly. The basic soil mix is as follows:—

7 parts by volume of fairly heavy loam, sifted through a ¼" sieve

This soil had never grown daffodils and was not sterilized. This year I have sterilized using Vapam.

3 Parts by volume of Pro Mix B X

2 Parts by volume of coarse grit (Traction grit from building suppliers)

Pro Mix is a commercially prepared growing mix containing peat, perlite, vermiculite, and small amount of both ground limestone and fertilizer. These ingredients were then well mixed to make the basic pile. However this still has to be modified.

Lord Skelmersdale points out that the species fall into two natural groups, one requiring rather a peaty, damp mix for *N. cyclamineus* and almost all the *bulbocodiums* and another better drained "dry" mix preferred by all the Ajax group, *triandrus* and jonquils. So the base pile is modified as follows:

Damp mix.

1 part by volume of the basic mix

1 part by volume of Pro Mix BX

Dry Mix.

3 parts by volume of basic mix

2 parts by volume of grit

1 part by volume of Pro Mix BX

These then are the two final composts that I used.

As the bulbs arrived they were carefully examined and any doubtful specimens discarded. Then as they were planted, each bulb was dipped lightly into a "shotgun" fungicide mix which I made up as follows:—

- 3 level tablespoon of 10% Phýgon
- 1 level tablespoon of 50% Captan
- 1 level TEASPOON of 50% Benlate
- 1 level TEASPOON of 30% Truban.

These powders were put into a plastic container, shaken well, and then the base of each bulb gently touched into the powder as it was planted. This has gone a long way towards controlling basal rot.

The bottom of each pan is covered with broken crocks—broken pieces of old pots—to cover the hole and to provide drainage. I have tried gravel, stones, granite chips and all seem inferior to crocks. The crocks have also been cleansed in strong clorox before being used. The pan is then half filled with appropriate mix. Bulbs are dipped in the fungicide powder and then gently pressed into the soil, leaving about one-half an inch between each, plus one or two extra in the middle. Depending upon the size of the bulbs I can usually place ten, twelve, fifteen, or even more in an eight-inch pan. The bulbs are then covered, the pan filled level, and the soil gently consolidated, which should leave from one-quarter to one-half inch for watering. When I began, the pans were then taken outside and plunged, being brought into the greenhouse after root development was well advanced and growth could be seen. This proved to be too difficult because of the wide difference in the growth habit of different species. So for the next and all subsequent years the pans have not been plunged, but simply placed on the greenhouse bench on a layer of gravel. Each pan is then covered with a layer of fine granite chips and, of course, labelled. The chips prevent overhead watering from compacting the soil surface. The soil is usually slightly moist when used for potting, so I may delay the first watering till late in September at which time the whole lot would receive a top watering with Benlate at the rate of three teaspoons of 50% Benlate to each gallon of water. Although I do this, I have not found that any drench has much effect upon basal rot. If it has entered the bulb from below and affected the top growth so that its effect can be seen, it is just too late to do anything. The dipping of the root plate in the powder mix seems to be much more effective.

As growth continues, watering is given most carefully to maintain an even and moist condition, but never wet. This is the real problem. It is quite difficult to do this with pans which are exposed on top of the bench and with pans of different sizes together. The smaller pans tend to dry out first and the larger pans to remain damp. Eventually I hope to standardize on one size only which will be a great improvement. Despite these difficulties, this is what I have done for the past three years with quite good results. This year, for the first time, I have plunged all my pans on top of the bench in a 50-50 mixture of peat and perlite. Growth is excellent, flowering is first class, but that is largely due to last years conditions, when the pans were not plunged. Next year will tell whether the plunging is better. Certainly it is much easier to maintain an even moist growing condition. It is, moreover, the method John Blanchard uses, therefore I feel it has to be best.

As the bulbs come into full leaf, begin to bud, and later bloom, I water them occasionally with a weak liquid fertilizer. The one I use is Peters 20-20-20. What does "occasionally" mean? It adds up to about four, or possibly five, waterings with a dilute feed during the whole of the growing season, probably every third watering. In doing this I believe that I am going against methods usually advised by knowledgable growers. My excuses are that the amount involved in each application is extremely small, second that I am using a balanced mix with equal amounts of N, P, & K, and finally, that what I have done seems to work! One pound

of 20-20-20 is mixed into a five gallon bucket of water and is then further diluted 1:16 through a Hozon attachment.

The key to success lies first, I believe, in the careful control of the water economy during and after active growth. For this control to be possible one must have a standard and reasonably well drained medium, whose characteristics you know by experience. You then adjust your frequency and duration of watering according to the weather and the needs of the bulbs. Once flowering is over most of the small species seem to prefer to begin to dry down. Not bone dry of course, but watering should be reduced. This is particularly true of all the triandrus group, bulbs which have given me the most trouble from rotting. However, this year they seem particularly fine and are in full bloom as I write (March 16) with no sign of any problems.

As the foliage dies down the tops of the pots should be cleaned, dry leaves removed, and finally water should be withheld completely. I let my bulbs become completely dry and they remain so through the summer. The greenhouse is shaded by adjacent trees when they are in full leaf, but all that I may do is spread sheets of newspaper on top as some additional protection from the fierce heat of mid-summer. In order to keep the bulbs dry in this manner they must, of course, remain under cover. In my second year of growing, as the bulbs flowered, I placed the pans outside on a gravel base. This would be sometime in April. I reasoned that the bulbs might benefit from more natural conditions, coming to final dormancy in the open. It was a great mistake. It so happened that the week after they were put out, we had a wet period; and after a week of rain I brought them all into the greenhouse again. It was a good thing that I did for already a number of bulbs had been lost to rotting. Since then the pans have remained inside the greenhouse throughout the summer. The house is not used for growing anything at that time, so it becomes a hot, dry, bulb storage area, conditions which the species seem to prefer.

Analyzing my methods the following points seem important:

1. Cleanliness. Clean and sterilize to a state of "kitchen cleanliness" everything you can: pans, crocks, soil, and growing area.
2. Standardize soil mixes so you know what you have and how they behave.
3. Control all aspects of growth by using some form of shelter, frame, greenhouse, or even a cool porch. In particular be able to control water loss and water application to the pans.
4. The soil mixes I have described contain a small amount of base fertilizer derived from the Pro Mix. This is carefully supplemented by the application of a soluble fertilizer. I use a 20-20-20 but the use of another mix with higher phosphate and less nitrogen might be an improvement.
5. Ruthlessly remove any and all bulbs which appear wrong while in growth: any with stripe, or indications of basal rot, and rogues.
6. See that the pans and bulbs dry right down in late spring and remain dry till early September. Then clean off the top of the pan, removing top soil and chips till the bulbs can just be seen. Top dress with new soil, cover once more with new granite chips, and when you want growth to start water well with Benlate solution.

It is not necessary to repot the bulbs annually. I now plan to leave my pans down for at least two years and in some cases three. Only if there is some problem which has appeared during the growing season should the bulbs be lifted, cleaned, examined, and repotted.

Do try a few pans this year. If you are not interested in the species, then try a few of the truly miniature hybrids. As I write, I have a small pan of Stella Turk in full bloom—a sheer delight. Others now over would be Small Talk and Tiny Tot; while in the slightly larger group, Little Lass, Kidling, and of course Tete-a-Tete do splendidly for me.

HERE AND THERE

Several newsletters have crossed our desk recently, and it bears repeating that newsletters are an excellent way to keep the daffodil interest high. They offer an opportunity to go into greater detail on regional activities than the *Journal* permits, and not infrequently articles find a wider audience in these pages.

Nexus, a quarterly publication of the University of Georgia Botanical Garden, reports that a grant has been received from the ADS for a research project on narcissus. While it doesn't state what the project is to be, we look forward to publishing the results of the research in the future.

The New York Times Leisure section of October 30 included an illustrated article by our James Wells, "Miniature Daffodils Can Brighten the Indoor Garden," which gave instructions for growing miniatures in pots.

The National Council of State Garden Clubs, Inc. annually publishes a calendar, *Vision of Beauty*, which this year includes a photo for the week of April 15 of an arrangement by our Mrs. W.A. Craig of Goshen, Ohio. The arrangement is of daffodils, dried artichokes, and dried foliage in a yellow fondue pot.

If you're looking for a plant and can't find it, maybe *The Avant Gardener's* new Source Guide 1984 can help you find it. (\$2.00 postpaid from P.O. Box 489, New York, NY 10028.)

Do bulbs from some growers—particularly more northern growers—take a long time to acclimatize in your garden? Do you get first-year foliage about two inches tall, and that's it? Well, here's what you do! You give the bulbs a nice warm bath before you plant them. One hour in a water bath of 100 degrees puts an end to distorted foliage and the bulbs grow normally. I admit to being a skeptic when I first heard this story, but several well-known growers have sworn it works. Try it—you'll like the results!

Did you see our Granville Hall and his granddaughter, Amy, featured in a segment of "The American Parade?" They were shown picking old, naturalized daffodils for market, and those who bought them would know they came "from the arms of Amy." It was a nice piece.

From Bowling Green, Kentucky, comes word of the death, at 92, of Mrs. L.R. Robinson, long-time member and judge of daffodils.

Missionary work among the Dutch wholesalers by our Libbe Capen has finally paid off. Since 1948, she relates, she has been telling the major wholesalers that there was this new classification—from 1939. Last year several big wholesalers sold out. Libbe sent the successor a copy of *Daffodils to Show and Grow*. "He seemed grateful, saying he would use it," she said; "today, his new list arrived, and by Jove, he really did. I am pleased; they reach all the major retailers."

In a conversation with Brent Heath at the convention, Brent spoke of research that had been done at North Carolina State University which had come up with a slow-release fertilizer formula that would keep tulips growing in subsequent years to the size of first year bulbs. Apparently Holland Bulb Booster (9-9-6) is the result of that research, but bear in mind that it was developed for tulips, not daffodils. Maybe we should encourage a similar project on daffodils.

"Saying it with flowers can be very costly" read the headline on a newspaper clipping sent us by Fred Silcock in Australia. The article goes on to say, "The latest ultra-exclusive flower, being sought by experts to whom money is no object, is a brown-pink daffodil called Fujiyama Dusk. It costs £100 for a single bulb. . .there are only twenty available at the moment in the entire world!" Maybe one of our Japanese members could tell us more about it, or send a photo?

Our Tom Throckmorton, known to most of us as the man behind the *Data Bank and Daffodils to Show and Grow*, has co-authored a book far-removed from daffodils. *Drink Thy Wine with a Merry Heart* proved to be a delightful conversation about wines, the grapes that go into them, and the places where wine is made. (The Iowa State University Press, Ames, Iowa 50010, \$8.50, postpaid.)

Margo Powicki, Sherborn, Massachusetts, writes that the 25,000 daffodils of the Sherborn Daffodil Trail, Phase I, are now a reality, and that plans are being made for Phase II which will include more community plantings as well as individual homeowner plantings and neighborhood beautification projects. Phase III includes a walking trail and display garden. She sends sincere thanks to the Society for all its enthusiasm and encouragement, particularly those who sent bulbs for the project.

GLEANINGS

THEODORE E. SNAZELLE, PH. D.

Chairman, Health and Culture Committee

The subject of viruses in narcissus has previously been discussed (1). Of continuing interest has been the development of what was originally called virus-free, but now called virus-tested (VT), bulbs of Soleil d'Or. In the 1982 (1983) annual review from Rosewarne (2), Tompsett summarized the results of testing ordinary (virus-infected) Soleil d'Or with VT Soleil d'Or; some of these results are shown in Table 1. From Table 1, it is easy to conclude that freeing Soleil d'Or of virus has had a dramatic effect on its performance. Tompsett also reported on another trial where the VT Soleil d'Or was observed for three years, in order to monitor the virus infection rate. Unfortunately, after three years, 62% of the VT Soleil d'Or had become infected with the aphid-transmitted narcissus degeneration virus (NDV), and approximately 75% had also become infected with the soil-borne (nematode-transmitted) arabis mosaic virus (AMV). The infection of VT Soleil d'Or by AMV came despite treating the soil with the nematicide D-D (dichloropropene plus dichloropropane) before planting. The subsequent infection of the Soleil d'Or bulbs by AMV, despite the soil having been sterilized with D-D, suggested that the subsoil (unaffected by D-D) served as a source of nematode vectors of AMV. Additionally, Tompsett reports that the use of benomyl-type foliar sprays to control leaf-infecting fungi has resulted in two interesting effects on Soleil d'Or: Firstly, benomyl-type foliar sprays cause a cytokinin effect, i.e. delayed senescence (delayed aging and dying of the leaves); secondly, benomyl-type foliar sprays seem to have a virus-suppressing effect on ordinary Soleil d'Or such that its performance is not noticeably less than the performance of VT Soleil d'Or. Because of the possibility of the development of benomyl-resistant strains of foliage-infecting fungi, Tompsett states that a mixture of benomyl + mancozeb is recommended.

In summary, the effects of freeing a cultivar of virus are dramatic, and the prospect of recovering a number of virus-infected, but otherwise desirable, cultivars is now possible. However, the results of the experiments on virus reinfection of VT Soleil d'Or point out the difficulty of preventing infection of any virus-susceptible cultivar. Thus, the breeding of virus resistant, or at least virus tolerant, cultivars should be the long term goal of hybridizers if control of narcissus viruses is to be ultimately realized. Obviously, the suggested virus-suppressing effect of benomyl-type foliage sprays needs to be further investigated for the potential in minimizing the effects of viruses in narcissus.

Table 1 - Percent Increase of VT over Ordinary Soleil d'Or

Criterion	Percent Increase of VT Over Ordinary Soleil d'Or
Stems/bulb	58
Florets/stem	22
Number bulbs lifted per bulb planted ¹	289
Weight lifted per bulb planted ¹	232

¹Bulbs had been left down for three years.

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1. Snazelle, T.E. (1980). Daffodil Diseases and pests: IV. Viruses and virus diseases. *The Daffodil Journal* 16, 173-183.
2. Tompsett, A.A. (1983). The development of virus tested narcissus Soleil d'Or and evaluation trials on the Isles of Scilly. *Review Rosewarne Experimental Horticulture Station for 1982 (1983)*, pp. 49-54.



GRIPSHOVER

Highlights of the season?

THESE THINGS I REMEMBER

WILLARD KING, *Hot Springs, Arkansas*

(from the Newsletter of the Southwest Region, August, 1983)

This is not worth reading, but if you do not have anything else to do you might have a go at reading it as many amusing and interesting things happened in the days before the American Daffodil Society was organized.

Remember Judge Carey Quinn? Well, he was a buddy of mine, and he was always doing things which amazed me like paying \$80.00 for King Alfred when it first came on the market. And when he paid \$110 for Narvik I thought he was wacky. When I ribbed him about it he would say, "You only live once and I intend to cater to my Number 1 hobby, daffodils."

For some reason or other Carey liked to mulch his daffodil beds with chickweed. He always had a good crop of it and regularly, in the spring, he would pull it up and throw it right back on his daffodil beds to use as a mulch. What happened? He had twice as many chickweed plants the next year.

When the Washington Daffodil Society was organized he wanted to name it the National Capital Narcissus Society. I argued with him about this saying that most people would not know what a narcissus was, so I tried to sell him on the idea of calling it the Washington Jonquil Society because everybody, even the dumbest gardener, knew what a jonquil was. Anyway, we compromised and decided to lobby for the name of the Washington Daffodil Society.

After a few years of tutelage by Carey, Dr. Freeman Weiss, Willis Wheeler, and Harry Tuggle, I learned to grow daffodils. Just digging a hole with a trowel was a no-no. I must dig a hole about the size of a bushel basket, five times the width of a bulb deep, to allow for a goodly amount of peat moss, bone meal, and a good inch of fine top soil. It was my idea, not theirs, to plant from three to five bulbs in each \$100 hole. Willis Wheeler was the one who taught me that to have show flowers you must prepare the soil so that the bulbs could have a long root run with no obstacles in the way.

Now I was ready, I thought, to compete in some of the shows thereabouts, so I bought some newer daffodils, including Salmon Trout, in the hope that it and others would put on a show for the 1956 convention in Washington, D.C. come April 1st. I poured hot water around the plant to make it develop faster. I did this each morning, being careful not to get any hot water on the foliage. Well, time came for the convention and garden visitation, and do you know that flower did not bloom despite my coaxing. I remember Guy Wilson, who attended this convention, kidded me about raising a boiled salmon trout.

By this time I had learned something about flower shows, so I decided to enter my first show at Takoma Park, Maryland. I was competing with some superduper growers in the area, but when the show was judged I won eleven blue ribbons. The chairman of the show apologized for not having something special to give me for winning so many blues. I give credit to my four tutors for this.

There were more worlds to conquer now, so I decided to go shoot for the Margaret Lancaster Trophy for the best landscaped daffodil garden. That was in 1963, and to make a long story short I won it. I still have it; and if any of you Washington Daffodil Society members happen to read this, I will return the trophy whenever you want it, providing you are still giving a trophy for "Landscaping with Daffodils."

I am back in the saddle again here in Hot Springs, Arkansas, trying to build up a beautiful, well-landscaped garden; but I am running out of space like every other daffodil grower. One wonders what it is that makes a person a daffodil nut.

Come visit us sometime at the King Hilton when the daffodils are in bloom. We have good accommodations but we only serve breakfast. (Mr. King was one of the founders of A.D.S.)

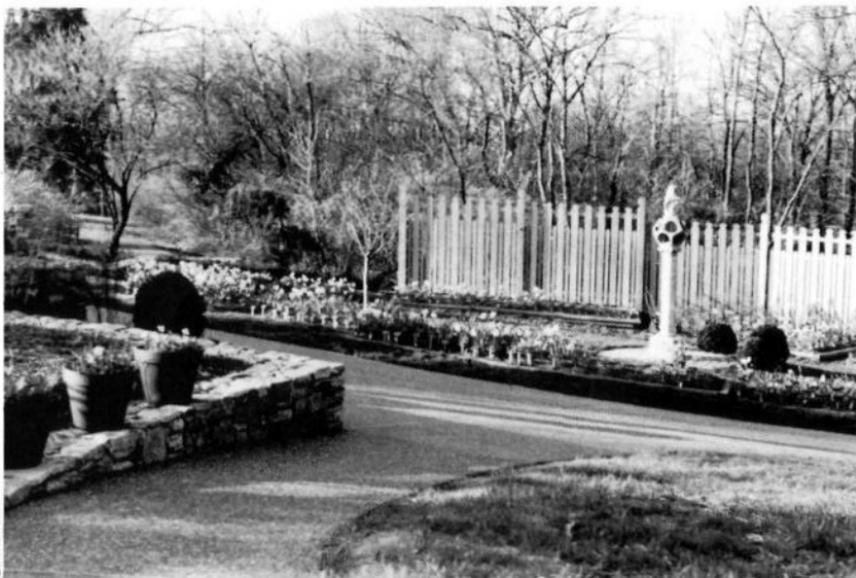
LOUISE HARDISON GARDEN FORMALLY OPENED

Under a chill, grey sky on March 31, a large group of Louise Hardison's friends gathered in Nashville at Cheekwood, the Tennessee Botanical Garden and Fine Arts Center, to help dedicate to her memory a display garden of daffodils. Her widower, Ernest, her two daughters, and her son were present on the occasion—called both happy and sad by several who spoke. Glenn North, Louise's long-time gardener, stood by, as did members of the Middle Tennessee Daffodil Society, whose efforts had got the bulbs lifted from Louise's garden and planted in their handsome new setting.

Speaking reminiscently of Louise, Ernest Hardison and former Cheekwood Director Duncan Callicott recalled how she strove for excellence in herself and expected it of others; recalled too her capacity and stamina for hard work and for good parties.

Dick Page, Cheekwood's Botanical Director, promised that the garden would be no static display, but would, through continual additions and deletions of bulbs, be representative always of the very best daffodils obtainable.

For the family, daughter Lee Linton formally presented and Robert C.H. Matthews, Jr. of the Cheekwood Board of Directors formally accepted the garden. Then, with her three children wielding scissors simultaneously, the golden ribbon across the entrance was cut, and the Louise Fort Hardison Daffodil Garden was open to the public.



GRIPSHOVER

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Is your Post Office loafing on the job? Put 'em to work. Write to the Round Robin Chairman.

ARE THEY DAFFODILS?

J. SHEJBAL, *Rome, Italy*

A short time ago I recorded an interesting wild-life TV program for my boys. Its name is (translated back into English from the Italian version) "Where the Condor Flies. Part II: Along the Pacific Coast," produced by the B.B.C. Magnificent shots show the little known desert of Atacama where, as the commentary says, it rains locally every ten years or so. After these rains the desert comes to life and great quantities of seeds germinate and produce plants with beautiful flowers.

So far, no big surprise.

But then lilies are shown, whose bulbs lie buried deep in the soil waiting for years to get the necessary moisture to sprout, just as some narcissus ... and a bunch of fragrant tazetta-like white-petaled blossoms with yellow crowns are shown.

I stopped the tape. They do look like daffodils.

The books I read say that the daffodil is a plant of the Northern Hemisphere and I know that tazettas can be found from Spain to Japan. I wonder whether the flowers shown in the B.B.C. documentary are daffodils and if so, how interesting a genetic contribution they could be to horticultural varieties, the bulbs being able to rest for years in the absence of water. If this were true, could the gene responsible for such behavior be used to extend the flowering season of new cultivars and overcome problems of Northern—Southern Hemisphere introductions?

(Could it be the Amazon lily, *Eucharis grandiflora*?—Ed.)

NARCISSUS FOR GARDENS

P.D. WILLIAMS, V.M.H.

(from *The RHS Daffodil Year Book*, 1933)

When a plant is developed from the species by hybridizing and selection through several generations, the development is often largely influenced by the raisers being florists who aim at the perfect flower from an exhibition point of view, and frequently overlook those characteristics of the garden plant which are not necessary for a show flower.

To some extent this has happened to narcissus, and by far the largest proportion of awards has always gone to show flowers. This is not surprising, as it is the easiest recognition of merit for the raiser and is appreciated by him and exhibitors, though of little value to the ordinary garden lover who wants to know what is a good garden variety obtainable at an ordinary price. The stock of such a variety must be large enough to supply the demand. When this quantity has been reached the award will probably have been forgotten, and the qualities for which it was given quite possibly surpassed by more recently raised sorts. Those daffodils that have gained the award have usually done so when the stock has consisted, probably, of less than ten bulbs, and have been more largely bought by raisers, exhibitors, or growers (for their potential value as market plants) than by the retailing trade-distributor of bulbs. As the number of these novelties has increased so largely the Royal Horticultural Society now also gives awards for plants suitable for garden decoration, and in doing so takes into consideration constitution, habit, and lasting color. This is most desirable, and it would probably be appreciated by many if the Narcissus Committee of the RHS now concentrated more closely on making a selection of those plants most suitable for the garden.

To do this effectively, trials must be held for the express purpose. I suggest this because it must be obvious that the exhibitors and raisers can be numbered in their tens, whereas those who would welcome reliable advice on the best garden plants can be counted in their tens of thousands. It has been said that every garden has its rose, surely it can be said that every garden has its daffodil. Probably no garden plant has been developed from the species to such an extent, or in such large numbers during the last fifty years, as the narcissus. This vast increase makes the selection of varieties for the ordinary garden owner most difficult, and in support of this view I should like to refer to a statement made by that very wise and sound judge of everything, the late Rev. W. Wilks, who, in 1889, said that a beginner visiting the spring shows would start making a list of daffodils and very soon become hopelessly confused with the number and similarity of the kinds, only to take refuge in catalogues where prices and descriptions were even more bewildering. While that statement, made forty-four years ago, is true to-day, the position has become even more difficult for the ordinary would-be purchaser; the numbers have increased enormously, the prices of the newest bulbs are so high that they often scare the beginner from making further enquiries, and the descriptions are so long and technical that very few can understand them.

I see in one list the average description is about fifty words, and, in the case of one flower, over 200. Mr. Wilks then gave a list of a dozen sorts, including the following, which have undoubtedly since proved to be the mainstay of our gardens and of the market grower:—Double Telamonius, Emperor, Empress, Horsfieldii, Sir Watkin, Barrii conspicuus, *poeticus ornatus*, *poeticus recurvus*, Double poeticus, C. J. Backhouse. When one considers that this was about the time Engleheart began to get awards, and further, that there were at that time over 300 varieties in cultivation, one realizes how slow the raisers have been in influencing our gardens and markets, and how sound was Mr. Wilks's judgment.

With a view to forming a list, I asked several good judges to give me their views, and I was astonished to find how little they were in agreement. I shall, therefore, not attempt to give a list myself, but will give my views on the qualifications for a good garden plant. To arrive at these qualifications one has to analyze most carefully the various factors that go to form the plant.

First and foremost, there is the stem, which must be strong. If the stem is not strong enough to support the flower one will often find that after rain many flowers are mud-splashed and possibly unable to stand up again. It also requires strength to stand against wind. It must be of fair length, for while a short stem may be suitable for the rockery, it is not so for a garden plant which should be available as a cut flower. You must consider the substance of the flower; if it is thin it is not durable, and durability is most essential and a quality that is very variable. While breadth of petal is desirable there are many attractive garden flowers with twisted petals, such as *N. maximus*. Color is another factor, but there are, as yet, very few really sunproof orange cups, so that, for the present, we can confine ourselves to aiming at the purity of the white as seen in *N. poeticus*, and the clearness and brightness of the yellow in *N. maximus*, as opposed to the muddiness found in Emperor.

On the other hand, there are some Leedsii's, such as Suda and Tunis, which do develop their color in the sun, and this is a great asset.

The neck of the flower is also most important; it should be short, and not long or willowy: rectangular, and not acute-angled to the stem. Rapidity of increase is not always desirable, as it may mean that the bulb itself soon becomes small and throws small flowers, and possibly few of them. I have always found a bulb of good shape and moderate increase preferable to others.

Stiff, upright foliage is the best type; soft, weak foliage which quickly collapses is very attractive, but is hardly so desirable as the upright, dark foliage of *N. maximus* blood.

Scent is another quality that must not be overlooked, but it is almost entirely associated with *N. poeticus*, jonquils, tazettas and their hybrids.

Refinement and quality, although primarily exhibition points, must be preferred to coarseness and size, and well balanced proportions between the petal and the trumpet, or cup, must not be forgotten.

Earliness is also desirable as it must be obvious that a good early daffodil is more desirable in a garden than a similar flower in mid- or late-season when they are so much more plentiful.

Finally, a good constitution is a sine qua non. It is a combination of qualities such as these that constitute a good garden plant, and I think it will be found that such plants are not nearly so plentiful as one would wish.

Narcissus gaditanus

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

Those of us who are interested in the growing of species narcissus will certainly have read, from time to time, a number of articles written by John Blanchard under the heading "Miniature Diary." One of the most interesting and informative articles in this series appeared in the *RHS Daffodil Yearbook* for 1966 from which I would like to quote.

The great excitement of the 1965 season was the flowering of *N. gaditanus*, which may have the distinction of being the tiniest of all daffodils. . . My father must have been growing this species for some twenty to thirty years, and in all that time it has flowered only three times, after the hot summer of 1955, 1959, and 1964. The flower this year came from bulbs collected in southern Spain by Capt. Collingwood Ingram about ten years ago. They were sent as *N. gaditanus minutiflorus* but it seems doubtful if the "*minutiflorus*" is botanically valid.

In the year of 1965, John Blanchard clearly took advantage of the flowering of *N. gaditanus* to make as many crosses as he could, and a number of selections were later made from crosses between *N. gaditanus* and *N. rupicola*, and between *N. gaditanus* and *N. watieri*.

In 1981, John Blanchard kindly gave to me some small bulbs of *N. gaditanus*, and a few bulbs of a number of the crosses with it and *N. rupicola* and *N. watieri*. In the spring of 1982 none of these flowered, but in the spring of 1983 one or two flowers appeared on some of the crosses. *N. gaditanus*, however, lived up to its reputation and remained flowerless. In May of 1983 all bulbs were shaken out, dried, and stored in pots under a layer of dry peat, the pots remaining in the greenhouse through the hot days of summer. Some shade from sheets of newspaper was provided but that was all. In October, 1983, all the bulbs in my collection were repotted into pans and the pans plunged in a peat perlite mixture on the open bench. Gentle heat was provided whenever the temperature dropped below 40°F so that in the coldest weather, such as that we experienced over Christmas, the temperature remained constant.

It is my custom to start each day with a visit to my bulbs. I poke around to see what has changed overnight, and occasionally lift out a bulb which shows signs of stripe and discard it, or perhaps remove a bulb from a pan which is clearly not true to name. Yesterday, February 4, 1984, I was astonished to find a number of small

but well-formed buds emerging from the tufts of fine foliage on the *N. gaditanus*! I see that to date I have thirteen buds coming, and there should be plenty to enable me to photograph them well, make some crosses with *N. henriquesi* and *N. requienii*, both of which are also in flower. (It is the true *N. requienii* or *juncifolius* as it used to be called.)

So the highlight for me of this 1984 season will be the flowering of *N. gaditanus* as it was in 1965 for John Blanchard.



J. WELLS

N. gaditanus

It is interesting to speculate whether the severe drying and baking which these bulbs have received is responsible for this sudden burst of flowers, or whether there is some other reason. Will this flowering continue now that we have presumably brought a number of bulbs to flowering size. It will be something to follow closely next year.

Other items of interest have developed this year from the flowering of bulbs for the first time. A form of *N. cantabricus* which I purchased as *N. c. Clusii* is a fine bulb, one of the best, but I do not think it's *Clusii*. It flowers too early. Two pans of my own bulbocodium seedlings are in full bloom. Are any of them worth growing on? I find it very hard to judge. *N. requienii* (*juncifolius*) is blooming for the first time. This was stock which I obtained from the RHS and I think that it is indeed true, being quite different to *N. rupicola*. Finally, is anyone else growing and flowering *N. gaditanus*, and is the name "minutiflorus" a good one or not? Can anyone tell me?

PENCREBAR AND SEA GIFT

(excerpted from "Notes on Dwarf Daffodils" from the RHS *Daffodil Yearbook 1938*)

ALEC GRAY, Camborne, Cornwall, England

Pencrebar and my own Sea Gift both have a curious history. Both are evidently dwarf jonquil hybrids, and both were found growing in old Cornish gardens, the former in the gardens of the house whose name it bears, and the latter in a cottage garden near Helston. Neither, I think, is likely to be of Cornish origin; where Pencrebar came from no one knows, but concerning Sea Gift I was told a romantic tale by an old woman in a neighboring cottage, which may or may not be true, but is worth recounting.

One wild morning in the bad old days a century or more ago a ship was driven ashore on the coast near Porthleven.

An expectant and not over scrupulous crowd gathered on the shore to pounce on whatever the waves might cast up. Among the objects the sea gave up was a half-drowned sailor, but it was wreckage and not sailors the crowd was waiting for, and had it not been for a kind-hearted old woman, back into the sea the sailor would have gone, to be quite drowned the next time he came ashore; dead men tell no tales.

The old woman, however, cared for him in her cottage until he was well enough to return to his native land (Was it Spain?). Too destitute to reward her for her kindness, he told her he would send her some little present when he was safely home, and in due course a parcel of bulbs arrived, of the variety I have named Sea Gift.

The plant, while sterile, increases fairly rapidly and is absolutely hardy, having endured nearly thirty degrees of frost with me at one time, without suffering any damage.

VARMINT-PROOF SEED BEDS

BONNIE BOWERS, *Volcano, California*

In 1980, when my husband and I moved to our six retirement acres in the Sierra Nevada foothills, I soon learned that life beyond the sidewalks required a number of changes. Although I happily left behind the snails, slugs, and bermuda grass which had plagued me in the milder Bay Area climate, I found they were replaced by a new set of hungry and curious garden predators. We now have an abundance of moles, gophers, ground squirrels, deer, rabbit, and birds which quickly can demolish unprotected seed beds.

To eliminate both above- and below-ground problems, I had my husband build me a number of 1 x 6 redwood boxes with aviary wire stapled to the bottom. This wire comes in 100-foot rolls, either three or four feet wide, so the beds are constructed to fit either of these two widths and whatever length is desired. Mine are all about twelve feet long. The boxes are made in duplicate, one of which is reversed to cover the completed bed and protect the planted seed from birds, deer, or neighborhood dogs wandering through. (Country folk seem to favor large-sized dogs which need lots of exercise, mainly outside their own property.)

I use very sandy loam to fill the bottom half of the seed bed, as I think it makes for easier weeding and promotes good root growth, even though it requires more fertilization.

Next I take rolls of three-inch wide aluminum lawn edging and sink it about halfway into the sand to make a barrier between my rows. (See diagram.) Plastic-coated upholstery tacks are used to secure the edging to the wood at the ends of rows. A paper clip will hold the edging together when you come to the end of a roll. I make my rows about three inches apart as I plant my seed fairly close together.

After seeds are planted and sandy soil tamped down over them, I add a shallow layer of pea gravel on top to prevent heavy rain from washing out seeds. A sturdy stainless steel kitchen fork makes a handy weeding tool.

Since so many seeds are contained in a relatively small area, my planting bed maps carry only the cross number, then the actual crosses are recorded on a separate page kept in my loose-leaf binder behind each map page. Rows are numbered with a six-inch plastic pot stake for quick identification. The same size stake is used to separate and identify seed lots and carries cross number, parentage, and number of seeds planted. I find that a horticultural marking pencil—or even a regular lead pencil—holds up better than ink for marking plastic stakes.

Last year I experimented with using a sprinkling of dry Aqua-Stor beneath the seed rows. This is a polymer-based super absorbent material which keeps the roots more evenly moist in dry weather. More information can be obtained by writing to Absorbent Industries, Inc., 611 E. Jefferson St., Morton, IL 61550.

I decided last winter to try some of my miniature daffodils in similar beds, except that I eliminated the lawn edging between rows and left off the top cover. Until now the miniatures have mostly been grown in pots, which could be moved into protected areas if the temperature dropped too low for the more tender ones. As I write this (1/20/84), *N. bulbocodium* Nylon has blooms open and other buds are forming. Fortunately this has been a fairly mild winter here, so I hope my bulbs will be well adjusted to their open beds by the time next winter arrives with possibly colder conditions.

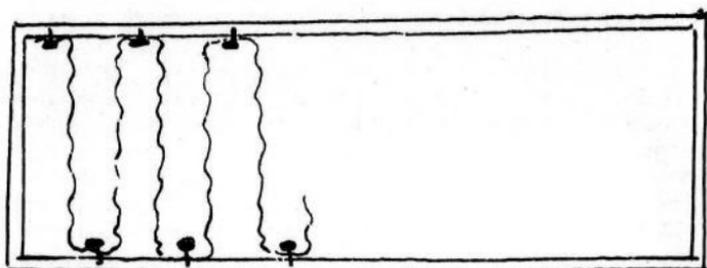


Diagram showing position of lawn edging used as row dividers.

Row 1	83-5	83-7	83-10	83-15
Row 2	83-20	83-24	83-27	_____

Illustration of planting bed map, (using 3-hole lined paper). Seeds are planted roughly in numerical order, except that miniature crosses are segregated to end rows to prevent larger growing foliage from blocking sunlight.

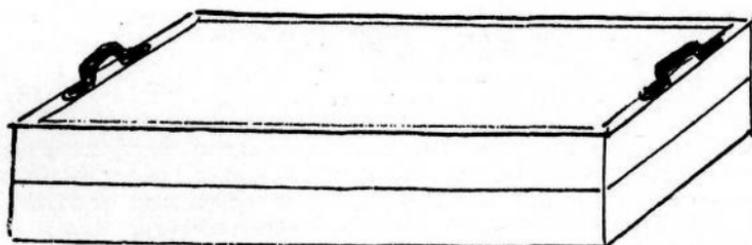


Diagram showing bed with top cover in place. Handles attached to end boards help lift off top for weeding.

The Daffodil Journal
ISSN 0011 5290
Rt. 3, 2302 Byhalia Rd.
Hernando, MS 38632
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