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COVER

Tahiti, a Richardson 4 Y-R, appears on both lists of good daffodils — good for garden and good for show. (Bourne Photo)

CONVENTION REFLECTIONS '91

RUTH PARDUE, Oak Ridge, Tennessee

Hoosier Hospitality. What a treat! This was the unforgettable experience of the American Daffodil Society members at their 1991 convention as they gathered at the Radisson Hotel in Indianapolis, Indiana, capital of the Hoosier state. Metropolitan Indianapolis has a population well over a million, ranks 14th among U.S. cities, and has some of its best emissaries in the members of the Indiana Daffodil Society who served as hosts for the convention.

Those who were entering the show, and board members, started arriving on Wednesday, April 17. Affectionate hellos with lots of hugs and kisses from friends looked like an old fashioned family reunion. We were also greeted by Registrar Caroline Brunner who presented us with name tags prepared by Mrs. Peter Harstad, schedules, and a goody bag which even contained a recipe for daffodil cake.

All of the activities were conveniently located on the second level of this thoroughly modern hotel. In the show room and grooming room we were met by Show Chairman Helen Trueblood who acted as our overseer. The exhibit hall was well lighted and encompassed two large ballroom sections. Of great importance was the very cool temperature in these rooms for many of the flowers came from areas that had experienced unseasonably warm weather. Quite a few exhibitors were working quietly. As they unpacked their blooms one could hear strange and varied sighs. They groomed patiently, selected critically, and staged hopefully. The overseas growers were much in evidence along with a plethora of seasoned American competitors and growers. As the night wore on most exhibitors retired for a precious few moments of sleep. Some fool-hearted ones of us remained the entire night fussing over our blooms and praying for miracles of substance and texture in the fading blooms. All night long Helen Trueblood checked entries for classification. On one trip to the ladies room I found Helen there, laughingly trying to warm her hands under the tap.

Entries closed at 10 a.m., Thursday. The show committee then prepared for the distinguished panel of judges to do their job. The show opened promptly at 3 p.m. with everyone anxious to see how their flowers had fared in competition. A complete report of the show by Show Reporter Leone Low will appear in the next issue of the *Journal* but I must tell you that two exhibitors did quite well, one received two medals and several coveted trophies, and the other garnered a medal, sweepstakes and special awards.

The Thursday evening function was a beautiful affair beginning with a sumptuous buffet. The food tables were highlighted by sparkling fountains. Tables were decorated with daffodil designs. Delores Moore chaired the committee that made the arrangements. Convention Chairman Phyllis Vonnegut opened the convention and we were all given an enthusiastic welcome by the Indiana hosts. The main business of the evening was the presentation of the show awards. Show Chairman Helen Trueblood, who had not been to bed for 38 hours, conducted the ceremonies with flair and humor. She was assisted by the unflappable ADS Awards Chairman Bob Spotts. This was a first for Bob who had earlier remarked that he wasn't going to try to follow the procedure of retiring Awards Chairman, Tag Bourne, who always kissed the award winners. A plot to try to catch Bob off guard unfolded as the first award recipient, Nancy Gill planted a smooch on Bob, and each winner followed the act with great embellishment. Helen's remark that it was a wonder that Bob's moustache was still intact bought down the house.

All the exhibitors were impressed by the show committee's attention to detail. Many expressed their gratitude to Helen for her patience.

Friday dawned a gray, rainy day but fortunately all the activities were

conducted at the hotel, starting with the hybridizer's breakfast at 7:30 a.m. Elise Havens was the speaker and her topic was "The Practical Side of Hybridizing." She noted it was best to start hybridizing at a young age because of the lapse of time from pollinization to seeing the flower. There are many disappointments with flowers having rough texture, long necks, etc. Some of the goals her late father, Grant Mitsch, worked on, and she is continuing the quest for, are: a true pink miniature, standard white cyclamineus, yellow/pinks, reverse bi-colors, red cup trumpets, pink split coronas and pink Division 3's. Her slides were outstanding. Elise noted that Precedent had given very good form in its progeny while Widgeon had produced yellow/pinks.

Elise stated that they did not fertilize the seedlings. One attendee responded that the late Harry Tuggle once said that the soil in Oregon could be used as fertilizer in other areas.

From 9 a.m. to 1:30 p.m. concurrent sessions were offered. "Daffodils for Beginners" was led by Peggy MacNeale and Harold McConnell. A relatively new member, Susan Raybourne of Macon, Georgia, attended this session and reported that beginners were urged to send for catalogues and make their purchases for garden bulbs based on descriptions which state: "generous bloom," "good increaser," "vigorous," "strong stem," etc. Show flowers should have descriptions such as: "holds color," "better substance," etc. Peggy covered points for growing, while Harold addressed the show qualities to look for in a daffodil and how to prepare for a show.

"Division 11" was presented by Peggy Newill. In the first offering of this subject, over 70 people attended which would indicate a new interest in these cultivars which were formerly scoffed. The complete history of this classification was covered in very interesting detail. Peg showed slides from Mr. Gerritson of some familiar split coronas but also cultivars that most ADS members had not encountered. The Dutch have been mainly responsible for the breeding in this division. Peg also had colorful posters and Wim Lemmers of Holland made comments on some of the work being done.

"Divisions 5 - 8" was discussed by Mary Lou Gripshover. This broad topic was broken down by division. Mary Lou noted that in Division 5, most of the 178 registrations were by Grant Mitsch. She indicated that there were 250 hybrids in Division 6. Of particular interest was the information that Division 8 bulbs do not have rot problems. The minor divisions are gaining in popularity and more work is being done by hybridizers.

"Landscaping with Daffodils" offered useful information to any grower who wishes to incorporate daffodils in the landscape. This session was led by Julius Wadekamper who had prepared a very concise handout that covered the Basic Elements and Principles of Landscape Design. In his discussion, Julius addressed cultural information along with features

in a design such as water, decks and dining out, statuary, and attracting birds. However, he was definitely not in favor of pink flamingos as statuary! When planting daffodils he recommends a number of good companion plants such as daylilies, hostas and lillies.

"Miniatures" were discussed by Miniature Chairman, Nancy Wilson. She urged any grower who wishes to successfully raise miniatures to research the requirements for the species and cultivars they wished to grow. *Cyclamineus* need a damp and acid environment and one grower has had success planting these under a bird bath. *Tazettas* like an alkaline soil. The *bulbocodium* will flourish in a muddy location for they must not be allowed to dry out. Nancy urged us to have a soil test and to practice weed control due to competition for nutrients. Nancy cautioned that about one third of the bulbs she receives are questionable, therefore she urges the growers to inspect the bulbs and blooms carefully. She staged a display of soils that were collected from successful miniature growers' gardens, and there was another example of poor soil for minis.

During the afternoon, a Judges Refresher was conducted by Judges Chairman Naomi Liggett and Ruth Pardue. There was an exhibit set up that had been point scored by two independent panels. The main emphases of this refresher were: look for the positive attributes in an exhibit; look for perfection for the division rather than for the cultivar; be cognizant of differences that appear during a flower's development; and learn to recognize more cultivars each year. All judges were strongly encouraged to grow new cultivars, attend shows, and exhibit regularly in classes where they are *not* judging.

Commercial exhibits were staged in the grand corridor of the second level. Carncairn Daffodils, Ltd., had many outstanding flowers including Bailey, a beautiful 2 Y-R, and Rory's Glen, a 2 O-R, which was quite flushed orange in the perianth. The outstanding flower in the Brian Duncan exhibit was Dorchester, a magnificent 4 W-P. Elise Havens presented a quite respectable display despite the fact it was late in the season for her blooms. Also coming from Oregon were lovely and extensive exhibits by the Tribes of Oregon Trails, and Jeanie Driver of Bonnie Brae Gardens. Wim Lemmers had a small collection of beautiful and colorful doubles that attracted attention and fragrance was evident in one. Lib Capen had a delightful exhibit of miniatures in the show room. The commercial exhibits were enjoyed by many guests of the hotel that were there for other functions.

The Friday evening festivities were preceded by a lovely dinner. The invocation was very stirring as note was made that the world began in a garden. There was entertainment by the Counterpoints, a group of 30 award winning singers from a local high school. From their rendition of "Bridge Over Troubled Waters" to "Stepping Out With My Baby", the energy that this wholesome and very attractive group exuded was remarkable and made one wish we could sign them up as life

members of ADS. One overheard comment was "Youth sure is great, wish we could bottle it." This certainly was a fine example of the best of America's youth.

The Annual meeting was presided over by President Jack Romine. A report from the officers was given and the report of the nominating committee was voted on. Both the Silver Medal for Service to the Society and the Gold Medal for outstanding work with daffodils were awarded this year. The Silver Medal for 1991 was presented to our editor of the *Daffodil Journal*, Kitty Frank. The Gold Medal was awarded to Barbara Able Smith who was not able to attend the convention this year.

Saturday the skies were overcast, but the rain had ceased. We boarded buses for what was the highlight of the convention: tours of three outstanding gardens. Tour chairman for this convention was Mrs. Robert Merrill. Our first stop was Tanager Hill, the garden of Helen Link. It amazed us that Helen had time to enter the show, serve as co-chairman of the convention and have her beautiful garden open for tour. The Link garden has been in existence for 53 years. It was the site that Helen's late husband, Dr. Goethe Link, selected as a country place where he could relax. He also found this to be a suitable spot to build an observatory. We were able to tour the observatory.

The daffodils were into late season, but the carefully laid out exhibition beds still had many of Helen's originations in bloom. The miniature bed was constructed of railroad ties and hardware cloth to deter the moles, squirrels, and chipmunks. The growing medium was $\frac{1}{3}$ sand, $\frac{1}{3}$ peat, and $\frac{1}{3}$ loam. The bulbs are planted in berry baskets, mulched with pine needles, covered with burlap on rollers and then a two to three inch layer of straw is tied down with plastic and rope. The protection was removed in very early spring. As we wandered the grounds filled with daffodils growing in the sod, many other specimen plants were enjoyed. A Japanese Maple in red spring color had a spread of 25 feet. The 100 year-old larch and Austrian pine in the back of the house were breath-taking. Blooming in the perennial garden were *Fitallaria Imperalis*, epimedium, dwarf iris, primulas, and the buds on the peonies were a promise of beauty to come. Helen Link is also a grower of beautiful orchids. Her greenhouse was filled with *phalanopsis* and *cymbidium* orchids, some of which were in flower. Too soon we had to leave this spot of heaven on earth to adhere to our schedule.

Our next stop was the $7\frac{1}{2}$ acre garden of Emily and Gilbert Daniels who greeted us along with their Russian wolfhound, Misha. A good portion of the garden is in natural woodland overlooking the White River, but there are also extensive perennial planting and choice trees and shrubs. The smell of the viburnums filled the air. The shade areas were planted with hosta, vinca, pulmonaria and ferns. A fine specimen of Japanese wood anemones was admired. The rock garden at the back of the house had many choice plants including species tulips; ajuga,

metalica crispa; and lamium. Both pink and white bleeding heart, mertensia, and geranium were blooming along with *N. jonquilla*, Hawera and Pipit daffodils. The pond, which is only two years old, fits the site and adds to the overall beauty of the garden. The Daniels do most of their work and their deft hand at plant combinations, sculpture placement, and incorporation of new plant material into an existing garden of thirty-five years or more is remarkable. This is a garden that is beautiful in every season of the year.

The third garden on the tour was the home of Jeanne and Doug Clarke. The site consists of almost five acres with magnificent beech trees and a lawn carpeted with spring beauties. The leucojum were in full bloom and were grown to perfection. The lake at the entrance to the garden was being enjoyed by ducks as well as providing a beautiful reflection of flowering trees. Doug has interest in many plants and his fondness for hemerocallis, hostas, and iris is quite evident. Exhibition beds of bearded iris were combined with grape hyacinths. Doug also is a grower of Siberian and Japanese iris and the Clarke garden was on tour for the 1985 National Iris Convention. the Clarkes have lovingly nurtured this site for 20 years and their keen interest in daffodils is expanding. Their garden is a beautiful site for many well-grown perennials.

After leaving the Clarkes, we made our way to the Woodstock Club for lunch. We passed the lovely estate of the Lilly family who were pharmaceutical giants. The manicured grounds of the Museum were appropriate backgrounds for notable sculpture and the grand allee was outstanding. After a delicious lunch we returned to the hotel for one last visit to the boutique which was chaired by Mrs. Roger Miller and Mrs. B.D. Dove. We just had to have one of their cute tee shirts emblazoned with daffodils on a blue background.

The final affair of the convention was the Saturday night banquet. Again the menu was very good and I'm sure everyone gained a few extra pounds that will probably be shed during daffodil digging time. Recognition was made for those who had attended many ADS conventions. Wells Knierim had only missed one convention and others who had attended almost as many were Lib Capen, Eve Robertson, Helen Link, and Bertie Ferris.

The invitation for the 1992 convention was issued by Cindy Hyde of the Central Ohio Daffodil Society. The gathering will be in Columbus, Ohio, and will feature a trip to AmeriFlora, one of the United States' official events of the quincentennial celebration of Columbus' discovery of America.

A presentation on behalf of the Dutch Bulb Growers was made by Wim Lemmers. At the Buga '89, Bussdesgartenschou, Frankfurt, 1989, the silver medal for Dickcissel and the gold medal for Petrel were awarded to Grant Mitsch. Elise Havens accepted the medals.

Banquet speaker for the evening was Dr. John Reed of Niles, Michigan. Dr. Reed was introduced by Helen Link who recounted how as a young man he visited her garden nearly 20 years ago and has been collecting and growing bulbs with a passion ever since.

John's presentation gave many practical hints for growing better daffodils. He has gardened on several sites and now has an area where wind protection is needed. He shared his idea for marking rows by using drain pipes sunk at ground level which will permit mowing of the area without damage to the label that is placed inside the pipe. John works long hours as an emergency room physician and consequently must make use of his spare time whether it be daylight or dark. Thus he has equipped a cart with lights so he can make crosses at night. This cart is also designed for easy access to his vast plantings. He concluded by showing slides of his plantings.

The last event of the night was an auction. First Vice-President Richard Exell and Second Vice-President Marilynn Howe conducted the lively bidding. Clive Postle donated a bulb of a new Lea introduction Desert Storm, a 2 Y-R. Clive also donated a collection of his '91 introductions. Brian Duncan's Dorchester saw a lot of activity. Elise Havens' pink split corona fetched a fine price, as did two historical daffodil prints that had been donated by Roberta Watrous.

The festivities ended but many memories were taken home by the group that assembled in Indianapolis. Thanks to Phyllis Vonnegut and her gracious committee who helped make those memories. It was a special time and Hoosier Hospitality reigned.

GROWING CONDITIONS FOR MINIATURES

(From the workshop at the Convention in Indianapolis)

NANCY WILSON, Garberville, California

There is a lot of good information available which will help save narcissus bulbs from year to year. The *Handbook for Growing, Exhibiting and Judging Daffodils* published by our society is excellent. Other sources are the *ADS Journal*, *The Daffodil Yearbook*, recently published books by experts such as John Blanchard and Jim Wells. The ADS library has many books that are a wealth of information. Your public library has atlases with maps of temperature, precipitation and soil types to show you what the native habitats are like for species bulbs.

What are the ways that you can help your bulbs obtain optimum health? How can you save a bulb? For species bulbs you can try to

reproduce the growing conditions in their native habitat. John Blanchard says, "You cannot make a formula to fit all." If you are growing hybrids find out where they grow well and duplicate the habitat. Look in the Data Bank and consider the hybrid's ancestors. Poets, triandrus, and cyclamineus hybrids like different conditions. Look at your own growing conditions. Full sun to a Floridian is different than to an Oregonian.

The first thing to look at is the availability of the bulbs you want. There is no 100% safe place for healthy bulbs. Bulbs are available from many suppliers. Seeds, too, are available and will give you disease-free material. Precautions can be taken to get healthy material. Plan ahead a little bit. Go visit the friend or expert who is a potential source of bulbs. Look over the crop while it is in leaf or flower. Talk to other growers and learn from their experiences. Buy bulbs from growers who plant their own bulbs and have yearly agricultural inspections. Use direct dealers, those who order from Holland, England, and other commercial sources, that have a good trade reputation. Sources to avoid are grocery stores, plant nurseries that sell imported bulbs from questionable sources, and catalogues that offer bulbs at cut rate prices. These are often the market for endangered species dug in the wild for profit. Unfortunately it costs money to raise and propagate healthy bulbs. Three years from now, the cheap supermarket special will more than likely be gone and the bulb from a reliable source may still be with you. Place your orders early and get the best of the stock offered. Experiment with different suppliers, bulbs grown in radically different areas from your own may not acclimatize well for you. If you wish to take on rare and endangered species, try a few from seed that is readily available. My neighbor in Northern California has naturalized *N. rupicola* so he is helping save a species. If you have a rare hybrid, consider as many factors as you can in helping it survive. Don't order any bulb that you cannot care for. Possession is nine-tenths of the law, but success is better for your ego and the bulbs' health. Bulbs want to grow, they don't want to die.

When your bulbs arrive, look at each one closely. If it is very soft, has a soft neck, has black staining on it, has pink colonies of spores or green mold on it. Throw It Out!!! Approximately one third of the bulbs I buy are questionable. If it is a rare bulb I will plant it and isolate it from the others. Most of the sick bulbs will die but a few will send out new bulblets from the basal plate. If the bulb is sick, destroy it, preferably by burning. There are, however, a few exceptions in determining a sick bulb. *N. pumilus* naturally has a very long neck that is soft. Other bulbs may deviate from the norm. This can only be learned from experience.

Consider each species or hybrid individually, preferably prior to purchase. Where does the species grow naturally? The womb of a woman is not the same environment as the womb of a giraffe. If the bulb is a hybrid, what are its parents? Does the bulb supplier feel it is

a vigorous cultivar? Do other exhibitors have trouble keeping a certain cultivar? By this time you are beginning to realize that growing daffodils can be a long, time-consuming process. If you want to save a bulb the time you spend will be worthwhile.

Just what is the bulb you are planning to plant? Basic plant physiology will help you understand your bulb's needs. A daffodil is a monocot, that is the plant has one seed-leaf, parallel-veined leaves with scattered vascular bundles, and flower parts mostly in threes. The plant has two basic parts, roots and leaves. The bulb of the plant is a leaf turned into a storage cellar.

The roots reach down into the soil to anchor the plant, take up water and minerals, and store extra food. When the water concentration is higher in the soil than it is in the root cells, the water moves into the roots. The root cells have marvelous semi-permeable membranes that are able to select the substances dissolved in the water that the plant needs. These substances are allowed to go through membrane and into the leaves. This process tells us that the roots need to be protected from damage and that ample water and minerals need to be supplied to the plant. The food, water, and minerals are carried up the vascular bundles within the leaves. The leaves manufacture food through photosynthesis. They change inorganic nutrients into organic compounds such as sugars and starches. From these the plant feeds its cells, manufactures hormones and sends food to the bulb for storage.

It is interesting to note that the plant retains only 1% of the water it takes up. The rest transpires from the plant into the atmosphere as part of the photosynthesis process. If there is a drought the water evaporates from the plant, turgidity is reduced and the plant wilts. Turgor or substance is one of the elements considered in judging flowers.

Hormones are manufactured in the plant. They act as growth regulators: they respond to gravity, regulate cell division, control flowering, encourage growth toward light, allow ripening and prepare for dormancy. They regulate the roots, flower and fruit development. They control seed germination until conditions are right, and they close the leaf stomas in stress, conserving moisture.

Ecological factors are a great consideration. There are two major components of an ecosystem. First are abiotic factors such as light, temperature and topography. Topography, for our purposes, refers to Websters definition, "the configuration of a surface including its relief and the position of its natural and man-made features." Second are biotic factors which encompass plants and animals including man, weeds, insects, mites, nematodes, snails, slugs, rodents and viruses.

Some narcissus like full sunlight. They grow in fields, prairies, roadsides, and deserts. Others are shade tolerant plants and grow under the shade of trees, rock ledges, and north facing slopes. *N. N. hedrianthus*, *bulbocodium* and *triandrus* are found on north-facing

slopes. Some narcissus in the wild grow under deciduous trees that shade in the summer but give full sunlight in the spring.

Narcissus survive the deep cold by the bulb going underground. The bulbs that are adapted to cold winters do not break dormancy unless exposed to four to six weeks of near freezing temperatures. Find out from the supplier the maximum and minimum temperatures that the bulbs you order will tolerate. I noticed last year that the foliage of *Tazetta broussonetti* drooped at 29 degrees. Since these bulbs come from an area that does not freeze they will not benefit from refrigeration.

California had freezing temperatures in its normally Mediterranean climate last winter. The coastal areas dropped to 16 degrees F. for a couple of weeks. One big lesson we all learned was that bulbs planted in pots froze if they were too wet or exposed. Bulbs planted out in the ground survived. We watched our bulbs die, a thick mulch would have protected most of them if we had thought of it. The tazettas and bulbocodiums were mush. We were not prepared for the unusual.

Precipitation comes in many forms: rain, sleet, snow, ice, dew, fog, and the gardener. *N. asturiensis* grows at the edge of the melting snow. Considering this fact I have had good luck growing it in a rocky area at the edge of a fir drip line. It gets some snow and frost as it faces the open field.

The native topography where bulbs are found varies from steep hillsides with thin soil, to gentle slopes with deeper soils, to land-locked depressions with thick humacy soils. I have seen photos of thousands of *N. poeticus* in France in moist, valley fields. They have been propagated by cows cutting the bulbs up with their hooves. *N. papyraceus*, "the paper white" (which grow in the house in a bowl with rocks and water) likes a grassy, cultivated soil at lower altitudes. It likes it hot, sunny and wet. In Berkeley I grew it in full sun at the base of a slope from my neighbor's garden. It got her water run-off. The bulbs that did the best were, however, the clump that also got the water leaks from the drip irrigation system faucet. They bloomed better, had larger foliage, and were more robust than the clumps only two feet away.

Another ecological factor to assess is whether the bulbs grow in the open or in the shade of rocks or trees. Are the trees deciduous or evergreen. Does it rain in the summer? Do the tree roots take all of the moisture from the soil? *N. triandrus* grows on northern slopes in Morocco in acid soils, under pine trees. At higher elevations, *N. triandrus* grows in the open. *N. cyclamineus* grows in heavy, damp soil that is acid. My mother had a hardy clump of *N. cyclamineus* growing under a birdbath. It got shade and frequent splashing.

The plant and animal influences will vary depending on where the bulb is growing. They can be beneficial or detrimental. Seeds seem to germinate better if sewn near the mother plant. Aphids spread viruses, it is probable that slugs and snails do also.

A knowledge of soil basics is necessary to save narcissus bulbs. Plants need soil with adequate nutrition for good growth. Soil is the loose, unconsolidated material that covers the earth's surface. Soil provides plants with access to water and nutrients. There are over 9,500 recognizable types of soils in the United States alone.

A quote from an article by Julius Wadekamper in the June, 1989, ADS Journal says, "The size, shape and viability of the organic and mineral constituents of the soil determine water and air penetration and retention. These in turn regulate the manner in which the nutrients essential for good bulb growth are available, especially the acidity (pH) of the soil."

Soil has four components:

1. minerals from decaying rocks;
2. decaying organic material;
3. bacteria and organisms living in the soil;
4. air and water in the soil spaces or pores.

Acid soils are created when granite made from molten materials weathers, and breaks down into soil. Acid soils are low productive soils. *N. rupicola* likes a well drained, acid soil. It grows in pockets of humus, in rocky crevices among the low granite outcroppings, under pines. *N. scaberulus* also grows under pines but in the poor acid soil of granite gravel. It likes plenty of moisture and extremely dry summers.

Alkaline soils are created when limestone weathers into soil. *N. tazetta* grows in the woodlands of Lebanon in alkaline soils. It likes a wet spring and a summer baking. *N. jonquilla* grows in chalk which is alkaline. It likes well drained lowlands and river valleys, it grows where there is abundant water at flowering time. *N.N. assoanis*, (*requenii*) and *alpestris* grow on limestone.

Soil texture refers to the combination of different sized particles of sand, silt, and clay in the soil. When I had soil mixed up this year, the man asked me, "What do you mean by loam?" A good loam contains 40% sand, 40% silt, 20% clay, plus air and water.

Sand particles are the largest. Water goes through the pores easily. Silt is fine and holds water in the pores. Clay particles are the finest, they hold water and nutrients in the pores. They tend to waterlog and not drain well.

As water drains down and out of the soil, air is pushed into the empty spaces by atmospheric pressure. Most plants need this air for good growth.

Some narcissus grow in mud. *Pseudonarcissus* and some *bulbocodium* like mud that does not dry out much in the summer. Some *pseudonarcissus* will tolerate damp, alkaline soil. *N. willkommii* seems to be another that likes summer water. These bulbs would be

good choices for flower beds near lawns.

Souces for organic matter are peat, leafmold, compost, and animal wastes. These may have seeds, fungi, bacteria and nematodes in them, so watch your source and quality.

Narcissus generally survive in slightly acid soils. The soil pH is as follows: acid soils have a pH of 0-6.9 and alkaline soils have a pH of 7.1-14. The higher the number the more alkaline the soil.

Soil can be made more acid by adding oak leaves, pine needles, aluminum sulfate, powdered sulfur, or micronized iron. A few drops of vinegar in a pot will work as well. *N. romieuxii* grows under cedars and oaks so you can assume it likes an acid soil.

Soil can be made more alkaline by adding, lime, egg shells or oyster shells. *N. cantabricus* is found in limestone.

Minerals come from decomposed rocks, animal waste, and decaying plants.

There are 16 elements essential to plant life. The old Mnemonic device that you learn in botany to recall plant elements apply:

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The major elements are:

C,H,O (carbon, hydrogen and oxygen) from air and water.

K,Ca, Mg, N,P,S (potassium, calcium, magnesium, nitrogen, phosphorus and sulfur) from soil.

The minor elements are usually present in soils.

They are: Fe B CU Mn Mo Cl and Zn (iron, boron, copper, manganese, molybdenum, chlorine, and zinc)

Dark colored soils contain iron. Light soils have low iron, decreased oxygen and poor draining.

Your county agent or agricultural college extension service can analyse soils and suggest changes that are specific to your needs.

Weed control helps. Pre-emergence herbicides such as Devrinol and Surflan help keep down the plant competition for water and minerals.

Two soil mixes that you will hear used for Narcissus are the John Innes and the UC mix.

The John Innes Mix is a basic potting mix of seven parts loam, three parts peat, and two parts course sand. The UC mix is a soilless mix using equal parts of sphagnum peatmoss and sand. To this is added a fertilizer mix called pro-mix which contains potassium sulfate, dolomitic limestone, agricultural limestone, superphosphate and chelated iron. I have used another UC mix which contains seven parts loam sifted to 1/4 inch; three parts mixed peat, perlite, and vermiculite with a small

amount of ground limestone; and two parts coarse sand. An addition to the UC mix for their conservatory mix is expanded shale. Expanded shale seems to be the magical ingredient for narcissus from my experience. The most successful slightly acid mix that I have used is the soilless UC mix with added expanded shale and crushed red lava rock. Another material that is favored by narcissus roots is polyfoam. If they are grown in a foam box, they will stick like glue to the walls. I am not certain if it is the air or the moisture they are reaching for. Recipes for these mixes can be obtained from a book called *Living With Plants* by Donna N. Schumann, Mad River Press. I highly recommend this book for a broader understanding of growing plants.

Now to get to specifics. I have researched the ADS Journals, visited gardens and looked at soil samples. A look is worth 10,000 words as the saying goes.

Alice Wray Taylor in Tennessee received her inspiration from the writer Elizabeth Lawrence. She grows her bulbs on a gritty bank with a pH of 6-7 (neutral). She makes pockets so that the water doesn't run off and the soil doesn't cover them too deeply. She finds Mite and Kibitzer resent disturbance. She does not lift them if they are doing well. If she lifts them it is as soon as possible after the foliage is gone. She plants back immediately.

Julius Wadekamper in Minnesota gets temperatures of below zero. He finds a six inch covering of hay, straw, and leaves keep the soil temperature at or above 20 degrees F.

Martha Anderson in Mississippi has a huge temperature fluctuation during the growing season, from 15°F to 60°F in one day. Her rain is erratic. She uses oat straw with a double sheet of newspaper, directly on the ground underneath the straw, to get them through the winter and then she uses pine needles for mulch during the growing season.

Marilyn Howe from Southern California feels you should avoid leaves for mulch, they harbor fungus and pests. She uses pine needles, walnut shells, pomice and pea gravel, one fourth inch thick as well as wood chips plus nitrogen 4.8 ounces per 100 square feet. These mulches prevent weeds, soil crunching and evaporation.

Max Hamilton in New Zealand urges everyone to get a soil test. His soil grows rhododendrons and azaleas, pH 6.5.

Helen Link advises using new soil. She recommends growing bulbs in Indiana in the sun at least half a day to ripen the foliage after blooming. She also recommends providing good drainage by planting on hillsides or in raised beds. If your soil is clay add peat and sand, if it is sandy add peat. Plant your bulbs immediately in one third peat, one third sand and one third loam. Put on a two to four inch deep mulch in the fall, and remove it in the spring. Use a light dusting of 3/12/12 (potato) fertilizer. "Don't plant a \$2.00 bulb in a five cent hole," she says.

Sara Andersen has seen bulbs growing in the Spanish Low Sierras. *N. triandrus* and *N. cantabricus* grow in recently burned areas, pH 5.4. She wonders if the burned areas have increased light. *N. assoanis* grows at 7.1 in rich, thin, dry limestone.

Jim Wells in New Jersey has tried the John Innes Mix and Soiless Mixes. He dips his bulbs in a fungicide mix of four parts of 50% Benlate, one part 30% Truban, one part 30% Captan and one part talc. He feels the talc is essential for good root growth and decreasing disease.

Jack Romine in Middle California uses a mix developed at the Golden Gate Park for conservatory use. It contains expanded shale, sphagnum moss and fir finds (bark and needles). He puts one half tsp. 0-10-10 in the bottom of each pot. When the plants come into bud he brings them into his greenhouse for protection.

Harry McCrone in Maryland has made a miniature bed which is basically a mixture of sand, peatmoss and perlite. He adds some Baccto potting soil around the basket when the bulb is planted. All bulbs go in the little plastic berry baskets. He adds bone meal and sprinkles the bed with wood ashes.

As you can see there are multiple factors to consider when trying to save bulbs. Their total environment is important. I hope some of this information will help you solve your growing problems. Good luck! May your bulbs multiply!

BUILDING THE MINIATURE BED

HELEN K. LINK, Brooklyn, Indiana

For those interested in growing miniature daffodils it is advantageous to build a specially prepared bed. This may sound easy, but to do the job well it takes considerable preparation and labor if the bed is of any size. It more or less depends on the location where the bulbs are to be grown, amount of sun and shade. If you live in a wooded or partially wooded area one obstacle you must consider is wild animals and the havoc they can produce.

There is nothing more disheartening than to survey the new bed the morning after planting and find the squirrels, dogs, cats, etc., have dug the bed full of holes, bulbs are scattered, or completely gone. The squirrels seem to enjoy removing your bulbs and planting their nuts. The moles winter under the bulbs, push up the plastic planting boxes and undermine the bed with tunnels thus ruining the root system of the bulbs.

After much thought I decided man must be more intelligent than the critters so a plan was devised to entirely enclose the miniatures in a world of their own. Two areas 42 inches wide by 18 feet long and sixteen inches deep were excavated. A path 14 inches wide was left between excavations. Landscape timbers were embedded along the edge of each bed. One quarter inch galvanized hardware cloth was placed on the bottom extending up the sides so that it extended up a foot above the timbers. The hardware cloth was stapled to the timbers. Iron reinforcement rods were sunk twelve inches into the ground on the outside of the timbers every two feet around the beds. The hardware cloth was wired to the rods. Now the beds were secured from the bottom and sides and the top could be dealt with later. The bottoms of the beds were covered with gravel about four inches deep; on top of the gravel a layer of sand was placed, then the beds were filled to the top of timbers with a mixture of one-third sand, one-third peat, and one-third top soil. A small amount of 3-12-12 fertilizer was incorporated in the mix.

It was not long until the squirrels went over the top of the hardware cloth and continued to plant chestnuts from a nearby tree. I decided the top must also be covered; that was accomplished by fastening a piece of chicken wire over the top of each bed. The wire was stretched and hooked over the top of the iron support stakes. This can be rolled off to work in the beds and has been satisfactory as a support to hold burlap which is rolled over top of beds for winter protection like a blanket in the colder climates, and has also been useful when spring comes as it can be rolled over top of beds when sleet, etc., is predicted.

Pine needles are used as mulch over the top of bulbs inside the fence. Outside the fence around both beds straw is banked for winter protection. Finally a cover of straw is placed over top of the burlap, and on top of the straw a piece of plastic netting is placed to keep wind from removing the straw.

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This procedure is not easy; it is time consuming; you need a strong back to do the digging, but it pays off. It is a pleasure when spring comes to undo the wrappings and see the little green leaves peeping through the pine mulch. You must watch carefully and remove excess mulch as the weather permits. One advantage of the burlap covering, besides winter use, is that it can be rolled over top of beds when blooms need protection from late frost, heavy rains, and hail. The burlap is fastened to poles and held to the ground with wooden stakes at each end of the beds both when in use and when rolled back.

So far the only trouble has been that a couple of small birds have found their way into the enclosure and had to be extricated by removing a section of the top covering. The bed is a curiosity for the visitors to the garden. Everyone asks, "What is in that bed, and why is it enclosed?" The bed has been useful also as a place to start seedlings whose parents are not tender. Seedlings stay in the bed for three or four years and then are moved out to a more permanent place. I find germination to be better than in the open ground.

MINIATURE DAFFODILS IN SOUTHERN CALIFORNIA

HELEN GRIER, Yorba Linda, California

Raising miniature daffodils in Southern California is not easy. The extreme dry heat of summer is highly detrimental to the small bulbs as it causes dehydration and loss of vigor.

Here the soils are often composed of heavy adobe clay. The same clay that was used to make the sun-baked bricks that were used to build the missions and early residences in this part of the country. It is in the mountains and the higher foothills where one finds the coarse, gravelly soils of acid reaction which are preferred by the miniature species and their seedlings.

The species from which the modern miniature daffodils have been developed require a cool, moist root-run with good drainage in a light naturally fertile soil, in a situation which receives ample sunlight during the period of growth, and with shelter from harsh, drying winds. The areas where the wild forms are found are regions where there is no standing water during the summer months; although some species have been found in flooded areas in full bloom in the spring. It is because of these conditions required by the parent species, persons wishing to raise miniatures with any degree of success must duplicate, as nearly as possible, these conditions.

Over the years and after the loss of many bulbs, the following methods

were devised, although they are not one hundred percent effective. The cultivars which were developed from the *N. jonquilla* parentage have been the most rewarding. The *N. cyclamineus* and *N. triandrus* groups of hybrids have contained the greatest number of failures. However, the hybrid Hawera, which originated in New Zealand, seems to be quite hardy and adaptable, even in a rather heavy soil in the garden, provided there is good drainage and some protection from excessive summer heat.

Years ago, in correspondence with Helen Richardson, she wrote that all their daffodil seeds were sown in wooden boxes. The boxes measured 12x12x12 inches in size, and were filled with a good, light loam with a bit of sand. The seeds were sown in these prepared boxes and were placed in a cool greenhouse. These boxes with the young seedlings remained in the greenhouse until after the second season of growth was completed, at which time the bulbs were lifted and planted into the open beds.

It was the size of the boxes used by the Richardsons which prompted me to try wooden boxes and dispense with the use of terra cotta pots. In later years, plastic pots were tried but they have the disadvantage of heating up drastically if placed in exposed areas. Their one good feature is they are a lot lighter in weight and easier to move.

The first boxes used were the wooden ones in which the distilleries in Scotland shipped their products to this country. Later, a retired carpenter was located who agreed to make the desired boxes for one dollar each, using scrap lumber.

The boxes were filled with a planting medium composed of commercial potting soil (steam sterilized) and coarse builder's sand, at the ratio of two-thirds potting soil to one-third sand. Sometimes small pebbles or chips of sandstone were added for the *N. calcicola* bulbs and its hybrids. The boxes were placed where the plants were to stay during the growing period; then watered to allow the soil to settle before the bulbs were planted. The site selected for these miniatures was one which was screened from the hot desert winds that spring up suddenly, yet which would receive ample sunlight for good healthy growth, and proper maturing of the bulbs.

The bulbs were planted approximately one and one-half to two inches deep, depending on the size of the bulb. The soil level in the boxes was about one-half inch from the top. The reason the boxes were filled so deeply was to allow plenty of room for the roots and to allow for the further settling of the soil during the growing period.

All daffodils have the ability to seek the depth at which they perform best. This ability to pull themselves deeper into the soil is characteristic of all members of the family *narcissus*. This action is brought about by the large contractile roots. These roots are easily recognized by their

larger size and the wrinkles which are quite prominent as they protrude from the rootplate. As these roots grow down the wrinkles smooth out. If the bulb is too near the surface of the soil, these roots contract and in so doing, slowly pull the bulb deeper into the soft soil. In a soil which is too heavy and hard, such as the heavy clays, this protective action on the part of the bulb cannot take place. Bulbs which are hindered in this downward movement are often lost during the heat of summer. This is why it is essential that the planting medium be light and porous whether it be in the open garden or in containers. Remember, the bulbs need a deep, cool rootrun with plenty of moisture during the growing period.

When the foliage has turned brown and ripened off, remove it. The removal of this foliage is necessary because it is attractive to earwigs, sowbugs and other scavenging insects, which can also damage the small bulbs. If the soil level in the boxes has dropped to any degree, more than was expected, a little more planting medium may be added at this time.

The boxes are then moved to the sites selected for the summer resting period, at which time the bulbs are in a dormant stage. The areas selected for this resting period are shaded from direct sunlight either by trees, dense evergreen shrubs or a combination of both. Not taking the trouble to remove these containers to a sheltered location can result in the loss of some if not all of the bulbs. The bulbs are allowed to remain in these sheltered locations until late fall, at which time they are once again placed in the previous spots.

The bulbs are allowed to remain in these boxes for a number of years, without being disturbed. When new growth begins to appear the plants are given a mild drink of liquid fertilizer after the soil has been well watered. Never feed a plant which is in a dry condition. The fertilizer used was in liquid form, a 2-10-10 formula commercially prepared for azaleas, camellias and gardenias and of acid reaction. The dosage for the boxed miniatures was one teaspoon to one gallon of water. The use of this acid fertilizer helped to overcome the alkaline conditions resulting from the use of hard domestic water available in this area. This same fertilizer was used at the rate of one tablespoon to a gallon of water several times during the growing period on the standard forms in the garden. The use of this fertilizer improved the color of the reds and pinks to a noticeable degree. Recently there has appeared on the market a fertilizer of a similar formulation but in a granular form; however, it has not been tried at the time of this writing. Another item which may be of interest is that a mulch composed of the dry leaves of the Chinese elm is also beneficial for improving the color of the reds and pinks. These leaves also worked very well with lilies, especially the austral and aziatic hybrids. It was while raking the fallen leaves that

the odor of tea was noticed which promoted the use of these leaves for a mulch.

When it became time to lift the miniature bulbs, the soil medium was again prepared in advance, new boxes were acquired, and when they were no longer available, a few wooden tubs were purchased. The containers were filled with the same type of planting soil and allowed to settle for a few days before planting, as had been done before. The bulbs were lifted, one cultivar at a time, in the late afternoons or on foggy days. They were replanted immediately, so as to prevent excessive dehydration during the lifting and replanting period. This lifting was usually done in mid to late August before the new roots had begun to grow, and at which time all old roots of the previous season had completely dried off. The bulbs were inspected for signs of disease or insect damage. If questionable signs were found these bulbs were put aside for whatever treatment would be necessary. Bulbs that were soft or appeared to be in a rotting condition were discarded immediately. All good, sound bulbs were planted promptly. Always there were some losses, from disease, disturbances, or old age.

Old Age? Yes. Remember, the miniature daffodils are derived from the hybridization of the small species *narcissus*. It is the nature of these wild forms to multiply by seeds which they produce in large numbers, rather than the formation of a number of off-set bulbs. This is one of the reasons why many miniatures are so slow to multiply by the means of off-ssets.

If the resulting clone of a two-species cross is sterile — unable to produce viable seeds — the ability to form off-ssets is often increased. This characteristic is most noticeable in the *N. jonquilla* hybrids, as they are almost 100% sterile. Many cultivars from *N. jonquilla*, both miniature and standard are excellent producers of off-set bulbs.

As the interest in, and the demands for miniatures increases almost daily, commercial firms have been conducting experiments on how better to be able to meet this growing demand. Tests have included the use of tissue culture and twin-scaling. To date there is little information on the results of these experiments. However, production of the cultivar Tete-a-Tete has been increased considerably, and the Dutch growers are able to export large quantities of these bulbs.

Tete-a-Tete is one of the cultivars that is the most generous with its off-ssets, and it seems to be most hardy and adaptable of all the miniatures. It has adapted to the various regions throughout the country, and has been used for forcing commercially. It is a pity it is sterile, as it has so many desirable traits.

Here in Southern California, we have not had much success with the *N. cyclaminus* and its miniature hybrids, although some of the larger ones have survived to some degree. This part of the country is too

hot and dry for them. However, in the higher foothill and mountain regions they seem better able to survive.

Perhaps, this growing interest in the small species and their hybrids will encourage more amateurs to try a little pollen-daubing. It is a delightful hobby, and who knows what the results will be? Possibly a Miniature Rose Ribbon, and wouldn't that be wonderful.

While trying to learn more about the small parent species and develop a suitable soil mixture, many books were consulted. The ones proving to be of the most value were the *Daffodil and Tulip Yearbooks* published by The Royal Horticultural Society, London, England. The volumes for the years 1953, '56, '59, '62, '63, '68 and '69 were most helpful as they contained articles by Dr. Roger Beven, Messrs D. Blanchard, J.W. Blanchard, Cyril F. Coleman and Alec Gray. Other sources of reference were the books by the following authors: E.A. Bowels, *Handbook of Narcissus*, first edition. Michael Jefferson-Brown, *The Daffodil*, 1951, and his later and excellent work, *Daffodils and Narcissi*, 1969. Alec Gray, *Miniature Daffodils*, 1955. This was the first book devoted to miniatures exclusively.

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FROM THE PRESIDENT'S DESK

The 1991 daffodil convention in Indianapolis has come and gone and become another beautiful memory. Other writers will be reporting on it in some depth, but I did wish to take this opportunity to express our gratitude to Phyllis Vonnegut and her helpers in the Indiana Daffodil Society for all their good work.

The Board has asked the Awards Chairman to devise a new section to be added to the national convention show schedule. It will be designed to encourage small growers to exhibit. (By definition a small grower grows fewer than 100 cultivars.) There will be twelve classes, one for each RHS division. These classes may also be subdivided by the usual means, such as grouping together three entries of the same cultivar. The best flower in the section would be given a rosette, the exhibitor's name would be printed in the *Journal*, and if the exhibitor is not already a member of ADS, then there could be an additional prize of a 3-year subscription to the *Journal*.

Two Bylaws revisions were passed at the annual meeting. One requires that the five people signing a petition for a regional vice president or regional director reside in the same region as the candidate they are recommending from the floor. The other revision allows a regional director or a director at large to chair a standing committee (yet have only one vote on the Board). This is in line with my goal of giving each member of the Board a specific area of responsibility. Over a long period of time it might also allow for a slight reduction in the size of the Board, although the exact number will tend to fluctuate. It may not always be possible to elect a director who is also qualified to chair a particular committee.

The major emphasis of the ADS this year will be to work to increase our numbers. Although a new membership campaign is currently in place, it was felt we needed to explore more innovative ways of attracting more people. To that end I have created an *ad hoc* Membership Brainstorming Committee.

Recently I received some historical and archival material from the collection of the late Mrs. R.N. Baughn, an avid gardener and daffodil fancier who lived in Conway, Arkansas. These records were sent by her daughter and son-in-law, Wenonah and Gordon Holl. Some of the enclosed correspondence deals with the first ADS-registered cultivar, Arkansas Traveller (2 Y-Y), which Mrs. Baughn hybridized. The Holls still have a bed of Arkansas Traveller that they cherish. What a wonderful legacy to leave behind!

— Jack Romine

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Mary Lou Gripshover, 1686 Grey Fox Trails, Milford, OH 45150, (513) 248-9137

BULBS WANTED FOR AMERIFLORA PLANTING

The ADS convention will be held in Columbus, Ohio, on April 23-25, 1992. As part of the convention, we will be visiting Ameriflora, which is the first internationally sanctioned floral and garden festival in the United States. At the Board meeting in Indianapolis, the Board voted to undertake a small daffodil planting — approximately 350 square feet — to show good daffodils to the public. To do this, we need your help. We need late-season cultivars for planting, a minimum of a dozen blooming size bulbs of each cultivar. What we want are things like Accent, Festivity, Merlin, Stratosphere, Olympic Gold, Golden Aura. In other words, good cultivars that are relatively inexpensive, available, and that the average gardener might buy. We need late cultivars — standard and miniature — because Ameriflora open April 20 and the daffodils will stay in place until May 19. The Central Ohio Daffodil Society will assist with planting, which will be done in late October this year. If you have bulbs you would like to contribute, please send them to me at 1686 Grey Fox Trails, Milford, Ohio 45150.

—Mary Lou Gripshover

LOST AND FOUND

JAYDEE AGER, Kathleen, Georgia

At the recent National Convention in Indiana, I found on the floor, part of a piece of daffodil jewelry. I stuck it in my pocket and forgot about it. What a shame, I thought, someone has broken a piece off of their lovely little daffodil. At lunch on tour day, I was sitting next to Bob Jerrell and he mentioned something about being so distraught over losing his daffodil. I momentarily assumed he meant a seedling or airline difficulties or some related problem. He went on to say it was a stickpin that he had had for many years and that it had great sentimental value for him. I realized I had found it and told Bob I had it. He was elated! I returned it to him upon arrival at the Hotel and he was wearing it with a grin at the final Banquet on Saturday evening.

Now this brings up another daffodil jewelry item I found at the National Convention at Calloway Gardens. If you lost a piece of daffodil jewelry, while there, please write me and describe it and claim your prized possession. I announced that it had been found, but no one ever claimed it. Seeing what joy was experienced by Bob Jerrell has renewed my memory of the daffodil jewelry piece I found at Callaway . . . so will its rightful owner step forward and claim it? I don't know why I consistently find such things, perhaps when you are as short as I am you develop a very close association with the ground.

Memorial Contributions

William J. Dunlop	Helen A. Grier
Grant E. Mitsch	Mr. & Mrs. Roland Meyer
D.Q. Rankin, Sr.	Mrs. Orville Nichols
Irma Werling	Southern California Daffodil Society

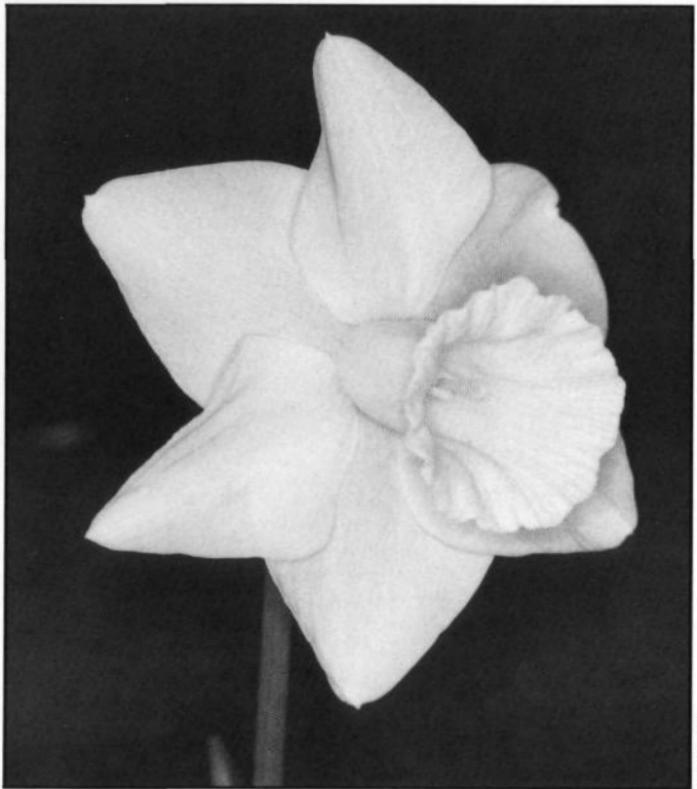
GOLD MEDAL WINNER:

BARBARA ABEL SMITH

Barbara has been hybridizing daffodils since 1959. April Love, seven years after receiving an Award of Merit from the Royal Horticultural Society, still sets the standard for white trumpets, having both great size and refinement. More recently Princess Zaide, Royal Princess, and Halley's Comet, all in Division 3, are winning accolades, wherever grown and shown. Desert Orchid brings excellent contrast and quick reverse to 2 Y-W's. She has many more fine things coming on. Particularly impressive is the fact that she seems to have become the first to develop a small-cupped pink of exhibition quality.

In addition to her creative hybridizing she is a charming hostess to all interested in learning about daffodils, and she has been a tireless travelling enthusiast for the daffodil throughout the British Isles and in her numerous visits to the States.

The ADS Gold Medal is a well-deserved tribute to her skill, to her enthusiasm, and to the solid results these have enabled her to attain.



April Love

TARRY

SILVER MEDAL WINNER:

KITTY FRANK

I can think of no other person who has put in so much quality time for the ADS at both the national and local level. In her five years as Editor of the *Journal*, Kitty has done an outstanding job. Even though the ADS budget provides a small stipend for this time-consuming position, she has refused to accept it and worked very hard, devoting one full month out of every three to draw together and edit our Society's major publication. As time goes on, it has become more and more difficult to solicit materials and deal with printer problems and the distribution of the *Journal*. Even in the face of an extreme surgical problem and impaired health, she has gone forward with her job, editing from her hospital bed. One month out of three for five years is twenty months of service to the ADS. In itself such dedication is certainly enough to warrant the ADS Silver Medal. Kitty has also served as Chairman of the Nominating Committee. In addition, the Franks have been the backbone of the Middle Tennessee Daffodil Society for many years. Kitty has given much encouragement to younger growers. Through her efforts, members who are in their thirties are involved with the Society, helping with the annual show and exhibiting in it.

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MOVING

or

HOW NOT TO GROW MINIATURES

JIM WELLS, New London, New Hampshire

Those of you who have read some of my articles, or perhaps have a copy of my book, *Modern Miniature Daffodils*, will know the clearly defined structures which I have urged upon everyone interested in these bulbs. Kitchen cleanliness was the watchword, clean and sterilize everything, plant early in August if you can, and use clay pots. Well, let me tell you what happened.

Two years ago we decided to move to a smaller house, and in a more rural area. Middletown, New Jersey, had become, in the 35 years we had been there a brisk and thriving business community, with no vestige of "sleepy hollow" remaining. It was time for us to move.

The house was put on the market, and the realtors, to the woman, were optimistic. (We have, belatedly, come to realize that only by being perennial optimists can the realtors survive). "No trouble to sell this house," they said, "All we have to do is show it." But it did not go. People trooped through and poked in every corner, but not even a nibble, let alone a bite. Then in October, 1989, a house appeared on the market in the small New England town of New London, New Hampshire, where we had decided to go. We bought it immediately, let it to a temporary tenant until we were ready to move.

Still no buyer in sight. In June, 1990, I lifted my bulbs as usual, sorted and stored them in small net bags in the greenhouse to wait events. I reasoned that it would be so much easier to move a few hundred small bags, than to have to tackle the same number of growing pots. The empty clay pots were washed as usual, and on the rash assumption that someone would appear with some money, these were carefully packed in boxes for moving. In August, 1990, we decided to go ahead with planned alterations to our new home, which included the construction of a new greenhouse. It was hoped that these would be finished to allow us to move in late September or early October, the latest date in my mind for planting the bulbs.

September came and bulbs began to arrive from England, together with some from kind people here, who knew I lacked a variety or two that they could supply. All these bulbs accumulated with the rest, but at the end of September came more bulbs and a letter from Michael Salmon. "Did I want to lose all my fall flowering species?" Of course not. "Well, get them planted!"

So there I was with an empty greenhouse of dubious cleanliness, bulbs everywhere, no pots and no sterilized soil. No good grit either — only some strange poultry grit which was more than half oyster shells. Examination of the bulbs clearly showed how dry they were, and a few, always precocious, were sending out leaves into the bags. With no buyer in sight, I decided that I had to plant, now, and do the best I could if and when we had to move.

Two cases of green plastic pots — azalea pots — were purchased. These were 6" and 6½" across, but only 5" high. These sizes were suitable for all the forms with more than 15 bulbs each, while small quantities, crosses, new additions, etc., would go into either plastic quarts, or pints. There were no crocks, so coarse granite chips used normally as a top dressing would have to do. But what about the soil mix? For this I obtained a quantity of "virgin" top soil from a farm which clearly had never seen daffodils. Then a very fine grade of stone chips was added instead of grit, the mix being completed by the addition of the normal amount of Pro-Mix, the professional peat mixture sold for growing bedding plants. In place of the traditional grit used at the base of difficult types, such as all *N. triandrus*, the chicken grit would have to do. Potting began in early October and was completed in about three weeks. The pots were then plunged in the peat-perlite mix which filled the two benches. Water was most carefully applied and growth commenced at once.

Early in November a possible purchaser appeared! And of course, the bulbs were growing apace. Negotiations began, for as was usual, no sale could be clear cut, but was inevitably tied into the sale of another house. Eventually a plan was worked out whereby we could move, the prospective buyers take possession, final closing to wait till the other house was sold. A strange agreement, but this is a strange market. We liked the young couple and felt sure they were in earnest and would complete the sale as rapidly as possible.

Then — "How soon can you move?" we were asked. The young lady was pregnant and wanted to move at once. We finally agreed on December 20th, which gave us a period of about five weeks to sort through a fairly large house with 35 years' of accumulated odds and ends, plus a full greenhouse of actively growing bulbs!

A new greenhouse was being built in New London, but was it ready? It was not — but ought to be finished by Thanksgiving. About November 15 the builder called to say that he had thought the boiler in the house was larger than it was, and if we were to tie into this heat source, a larger boiler would be required, to which we reluctantly agreed.

Finally on December 10 word was received that heat was on and we could move the bulbs. By now the weather had turned decidedly cold so a heated panel truck had to be obtained. The pots were lifted,

names and numbers carefully marked on each pot in case the labels became lost, and then the pans packed in heavy cardboard cartons.

A splendid young man who has been of immense help to us agreed to take a week-end off and drive the load to New London. When the van was finally ready, there were very few inches to spare. Thus the pots and pans were moved to New London in a day, and unloaded that evening into the new greenhouse. The drive up had been most cold, but everything seemed to be alright.

The boxes remained still packed for about a week until we arrived on December 21st, and a quick inspection showed that most were in fair condition. Just as soon as the furniture was off the moving van and we had moved in, I commenced to unpack and sort out the pans by number. Everything seemed to be in order until we came to the end when three numbers just were not there. Nothing special about them, but they were never found.

The electrician who had wired the greenhouse was a 6' 9" giant and had placed the thermostats well out of my reach and it took a few days — Christmas being in full swing — to get these lowered so that I could set the heat at 40°F, but the biggest problem was the heating system. Nothing strange about the source, the new boiler worked well, but instead of putting in a new Modene heater, fan and radiator, as requested, we found a large and most complicated arrangement of fans and coils, plus thermostats, which looked as if it had been salvaged from the base kitchens of the Queen Mary! I complained loudly about this, and was told by the plumber, "Well, if you ever want to refrigerate your greenhouse you are all set!" I gave up. It appears to be working quite well even if it does take up half the potting shed and I suppose I shall have to learn to live with it. But the bill has yet to be worked out and I shudder to think what this might be.

But what of the bulbs? It is mid-February as I write and most are in active growth, the early ones being well over. A strange phenomenon has appeared which has affected perhaps half the total number of pans. In these, half the pan will grow well, and perhaps be in bloom, while the other half will be completely dormant. The bulbs appear to be sound, but just have not made any growth. In some pans these slow bulbs have finally started, and so I have a few pans with half the bulbs in full flower and the other half hardly above ground. I have come to the conclusion that this could have been caused by the chilling of the boxes against the sides of the van, from the cold outside temperatures, which were well below freezing at the time.

This condition is not universal for some pans are fine and even. But on the whole things have been much better than I expected, which rather tends to debunk my previous stringent requirements. About five bulbs have been removed from the whole lot as being affected with

basal rot, which is quite normal. A few of the stunted bulbs have produced stunted flowers, yet the net results will be sufficient in almost all pans for my needs next year.

So the move has been completed more or less successfully, if not under ideal conditions, and bulbs seem to grow, even without the detailed preparations I have suggested in the past. However, I am sure that next August-September, I shall be back in my clean clay pots, a good sterilized mix, and plenty of clean grit under those difficult bulbs.

I just hope I never have to move again.

According to the *Pacific Coast Nurseryman and Garden Supply Dealer*, DuPont has issued a recall of three of its fungicides, including two benlate types. These products may include a herbicide, atrazine. Please check with your dealer before using with your daffodils, or call DuPont for more information at 1-800-441-7515.

William R. P. Welch

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DAFFODIL PRIMER

DIGGING AND STORING BULBS

HELEN K. LINK, Brooklyn, Indiana

Not all cultivars multiply at the same rate; therefore, only those which are crowded need to be dug. Some hybrids multiply very slowly which

usually accounts for a high purchase price.

When digging bulbs use a tool which has a long, sharp digging end. A tile spade is ideal, but may be too long for a small person to handle. Any good machine shop can cut off a couple of inches to fit the operator. Keep the spade clean and sharp.

When digging bulbs be sure to insert the spade deep enough to get under the bulbs and far enough away so the bulbs are not cut. Usually when bulbs are cut, if the basal plant is intact, the bulb will survive.

Examine each bulb when dug for any evidence of basal rot or fly infestation. For the city dweller who must use the same soil for replanting, it is a good idea to treat the bulbs with a Benlate dip.

When bulbs have been dug place them in a plastic mesh bag, such as an onion or potato bag, and label with name and color code. Be sure to use a label which will withstand water. A strip of a 3 x 5 card written on by a Bic pen works or use the garden tag. To clean the bulbs turn the hose (full force) on the bulbs rotating the sack. After draining, the bulbs are ready for a dip treatment. Prepare a dip of two (2) tablespoons of Benlate to a gallon of warm water (about 80-90 degrees) Insert the sacks of bulbs for 15 - 30 minutes depending on the size of the bulbs. Probably about 15 minutes is sufficient for very small bulbs.

Where to store the bulbs for the summer until planting time is often a problem. Do not store in hot, damp areas. If stored in a cool, dry basement run a dehumidifier and place an electric fan on the sacks. The sooner the bulbs are dry the better. Most fungus diseases thrive in moist heat.

Bulbs should not be dug until foliage has turned yellow. Next year's blooms are supplied by nourishment through this year's foliage. Keep the bulbs growing as long as possible in order to provide nourishment for the next year's blooms. If, for some reason, bulbs must be dug when foliage is still green, then do not cut foliage deep into the neck of the bulb. Cut a few inches above the neck, and that which remains will dry off naturally without harm to the bulb.

Fresh roots should not be pulled off, let them dry off naturally. The area where roots are fastened to the basal plate is open for infection if roots are pulled off when still active. Some cultivars have roots the entire year, especially those from division 8 and some from division 9, and the miniatures, since they dry out too quickly. If miniatures must be stored, place them in dry sand in a cool place for fall planting. It might be better to replant bulbs from those divisions immediately without drying.

MOLES AND GOPHERS, ETC.

GILMAN KEASY, Corvallis, Oregon

Lee Kitchens' concern about \$50.00 bulbs (*A.D.S. Journal*, December, 1990) reminds me of my concern when I got my own new and better daffodils from the late Grant Mitsch 27 years ago. I also solved the problem with screen cages for the more expensive ones. However, I subsequently came to realize that no subterranean pest that can be screened out will eat a daffodil bulb.

Moles are insectivorous. They eat only such small animal life as insects, earthworms, etc., as they can find. Earthworms are probably the largest part of their diet. They have no incisor teeth with which to gnaw anything. And no molars with which to masticate vegetable matter. The trouble with moles is that in hunting for their food they leave burrows which are invaded by mice, voles, and perhaps even rats that feed on all of the vegetable goodies exposed to them by the moles. Nearly every one accuses the innocent moles.

Then there are the pocket gophers—rodents—that do feed on many forms of vegetable matter, both above and below the surface of the soil, including most bulbs, tubers, and roots except daffodil bulbs which are poison as are the leaves also. My experience indicates that the odor of the calcium oxalate (as mentioned by Matthew Zanbergen P. 107. *A.D.S. Journal*, December 1990) is sufficiently repellent to prevent any foragers to even sample any part of the daffodil plant. I have observed where moles or gophers have burrowed through the rows and neatly detoured around every bulb or clump encountered. In these past 27 years I have not found a single tooth mark on a daffodil bulb. Very infrequently a mole or gopher may disturb a bulb, even seriously disturb a bulb, and gophers have been known to move a bulb for some distance. Recently I also observed a fresh mole mound with many short bits of daffodil roots in the freshly heaved up soil. So for that fifty dollar bulb the cage may be well worth while until there is a comfortable increase.

I also have beaver, deer, and elk. No pest mentioned so far need elicit great concern. The larva of the narcissus bulb fly, which gets to about a half inch long, is the "ferocious enemy" which would and does devour our precious bulbs. I seriously doubt that a "shark cage" will be any protection against that one.

HERE AND THERE

Word has reached us of the formation of the National Daffodil Association of Australia. Discussion has been ongoing since 1986, and in September of 1990, a meeting of representatives from state daffodil organizations was held, and history was made. Australia now has a national organization. The next Australian Championships are to be held in Canberra on September 12 - 13, 1992. We wish our friends in Australia well.

Recently we have received the sad news of the death of several longtime members. Mrs E.P. Miles of Alabama, a member since 1967 and a life member, died just before Thanksgiving. Mrs. Stenger Diehl (Mary), of Chambersburg, Pennsylvania, who became a member in 1968, died in December. Mrs. J.E. (Irma) Werling who had been a member since 1961, died recently, as did Mrs. Drury Blair, a member since 1978. Our sincere sympathy and condolences to their families.

Another loss was the passing of Charles H. Mueller, New Hope, Pennsylvania, bulb specialist and former member of the ADS, on December 1, 1990. Our sympathy to his family and friends.

COMING EVENTS

Sept. 13 - 14, 1991	Fall Board Meeting, Minneapolis, Minnesota
April 23 - 25, 1992	ADS Convention, Columbus, Ohio
April 1 - 3, 1993	ADS Convention, Nashville, Tennessee
Spring 1994	ADS Convention, Portland, Oregon

THE AMERICAN BRED COLLECTION OF JAN de GRAAFF

MEG YERGER, *Princess Anne, Maryland*

Jan de Graaff, a member of the de Graaff family bulb firm in Holland, decided to set up in business for himself in the United States. About 1926 he came to the Portland, Oregon, area establishing Oregon Bulb Farms at Gresham where he was to develop a very large and ambitious

hybridizing program the cultivars of which would eventually total more than a hundred.

Before leaving the firm in Holland he decided to have all their daffodils grown in Noordwyk properly registered by the R.H.S. This was done in 1927 which was definitely not the date of introduction. Thus the list contains old varieties, and perhaps some new, but mostly things grown many years before 1927.

Poeticus cultivars registered that year included Boccaccio, Catullus, Decamarone, Heptamerone, Inferno, Madame Sans Gene, Melinde, Satan, Sylvania (syn Mephistophles) and Striking. Edwina, 9 W-YYR, was named by him for a visitor who was also a friend of Mr. Henry O'Melveny of Los Angeles, a very prominent judge and great daffodil lover. Gladys Dobie was named for a Scottish governess who was the daughter of a Glasgow seedsman. In 1928, Los Angeles, the home of the judge, was used as the name of a poet. Mr. de Graaff recalled Kentucky, 9 W-YYR, also registered in 1928 as having coffee colored petals which was perhaps not a desirable characteristic but at least different. Kentucky was changed to Division 3 in 1959.

Possibly those poets went to Oregon Bulb Farms for use in breeding the many Division 2's and 3's that originated there. There is no record of a pure poet having been registered by O.B.F., but the number of blooms with "rimmed" coronas suggests poet genes in the ancestry

More than 2,000 varieties of the daffodils raised by the family firm were brought to Gresham for use as breeding stock and to be evaluated before being listed in the Oregon Bulb Farms wholesale catalogue. Those bulbs were listed in the RHS Classified list as being raised by de Graaff whereas those he bred himself in Oregon were credited to Oregon Bulb Farms. It was in 1928 when Jan de Graaff commenced raising daffodils there, thus producing a tremendous number of flowers to become eligible for entry in show classes competing for the American Bred Award (Red/White/Blue) offered by ADS.

Several listed as "pre-1942" may have been from the first crosses Jan attempted in Oregon — General MacArthur 2 Y-Y, Pink Cloud 4 W-P, Pink Gem 2 W-P, Pink Punch 2 W-WWP, and Promise 2 W- (Original registration is 2b). The daffodil Mrs. R.O. Backhouse was a parent of the ones with pink in them. Before 1946, newer pinks included Azalea 2 W-WPP, Buff Beauty 2 W-PPY, Gremlin 2 W-YYP, Magic Pink 2 W-P, Pink Delight 2 W-YYP, Pink Dresden 2 W-, Pink Mist 2 W-, Pink Perfection 2 W-, Rosy Glow 2 W-, Salmon Queen 2 W-, Tidbit 2 W-WWP, and Forever Amber 2 W-PPY.

According to Grant Mitsch, Oregon Bulb Farms and C.E. Bailey of the Portland area pioneered in work on pink daffodils. Bailey died in

the early 1940's and his seedlings were purchased by Oregon Bulb Farms. One of them with a pink frilled crown was named Charles Bailey and introduced. By 1959, when the entire stocks of Oregon Bulb Farms were sold to the Puget Sound Bulb Exchange, Sumner, Washington, even more pinks had been registered. As usual, they had pretty names — Carita 2 W-P, Cover Girl 2 W-P, Daring 2 W-P, Jane Biggio 2 W-WWP, Morningside 2 W-YYP, Organdy 2 W-P, Peaches and Cream 2 W-YPO, Prince Charming 4 W-P, Indiscreet 1 W-P, Roman Candle 2 W-P, San Marino 2 W-P, Sweet Talk 2 W-WWP, Troubadour 2 W-P, and Winkie 2 W-P.

Mr. de Graaff's tale of developing pink doubles involves going back to basics to develop a double he would consider worthy as a parent. He selected the bicolor Spring Glory, 1 W-Y, introduced by de Groot & Sons before 1914 and having won an award from Haarlen in 1921. At Oregon Bulb Farms he grew several acres of it. To produce the finest bulbs it was the custom to break off buds before they opened so all the vitality of ripening foliage and scape would go into the bulb. In a search for plants that showed a tendency to "double" all the flowers were left on in these several acres. In a bloom by bloom search one or two were found that met that requirement. From these the seeds were collected and a fine bunch of seedlings with well-formed doubles were raised. These crossed with Mrs. R.O. Backhouse produced some fine double pinks with pink and white petals interspersed. Pink Cloud 4 W-P and Prince Charming 4 W-P were the best of these. From other crosses came Riotous, Sunburst, and Windswept as fine yellow doubles, with Windblown as an outstanding 4 W-Y, and Whitewater as a good white double. Chalet and Sierra Madre were introduced about the same time. Enterprise, 4 Y-O, was registered in 1958 just before the entire stock was sold so Mr. de Graaff could become completely involved with the breeding of lilies. His success in the daffodil business confirmed his belief that American-grown, acclimated, selected bulbs would consistently give better results than imported ones. He urged that we should hybridize and grow daffodils suited to our own varying climates and soils.

At the second Annual convention of the ADS held in Mansfield, Ohio, Jan de Graaff was the banquet speaker on the subject of Daffodils for America, summarized as follows:

The key to better daffodils for America does not lie in haphazard crossing of tetraploid show varieties. It lies in finding good pollen parents among your naturalized daffodils, or among the species and then crossing those with the best of the show daffodils. In his opinion the continued intercrossing of tetraploids achieved very little and that little at a very

high cost. He urged that we realize this and embark on a project to raise new lines of hybrids, based in part on varieties that have survived neglect or maltreatment for many years. He pointed out the fact that in the old naturalized plantings of daffodils we have varieties eminently suited to our climatic and soil conditions.

A feature at the fourth annual ADS Convention in Philadelphia was a display of American-bred daffodils. People who were at that 1959 Convention still recall the drunk who wandered into the meeting room only to be completely baffled that so many people were talking about nothing but daffodils! People still recall the highly successful judging school where 75 students attended. People still remember Jan de Graaff's after-dinner speech where he again stressed the need to breed daffodils suited to our diverse climates to play an enduring role in American gardens. The message promoting American-bred daffodils brought ADS action at the 1960 Convention in Dallas with establishment of an award for a collection of five varieties, from any division, of American origin or breeding at ADS approved shows.

An exhibitor wishing to compete for the American-bred Award could have done so using Oregon Bulb Farm introductions each from a different Division. A trumpet could have been selected from fifteen different cultivars such as Allegheny, Chula, Flamante, Halloween, High Sierra, Indiscreet, Lady Ruffles, Lemon Pie, Miss Ruffles, Oriole, Peer Gynt, Palomar, Sea Breeze, or Silvervine. From Division 2, in addition to those already mentioned in this article, there could have been Adirondack, Appleblossom, Ausable, Aztec, Ballet, Beauty Glow, Bounty, Breathless, Bravo, Bronze Lady, Chateau, Chili Bean, Circus Clown, Concerto, Convoy, Dawn's Delight, Deschutes, Ecstasy, Ernest H. Wilson, Fandango, Fiesta, Firefall, High Tor, Igloo, Lovelight, Mount Whitney, Nestucca, Nipigon, Nipissing, Pacific Dawn, Petitpoint, Pocono, Polar Star, Promise, Red Dice, Red Punch, Remie, Shantung, Sherry, Sierra Gem, Sierra Snow, Signal Hill, South Pacific, Sparkle, Spice, Spring Love, Spring Mist, Springmaid, Tangee, Telegraph Hill, Temptress, Tonkin, Venango, Wallowa, Western Star, White Harmony, White Shadows, White Shoulders, Winterset, Zircon and Umpqua. It's possible even thirty years later to stage an American Bred Collection made up of five long cups originated at Oregon Bulb Farms.

From among the short cups registered by Oregon Bulb Farms there are fewer to select from — only Aloha, Atom Flash, Bright Lights, Brightwork, Crater Lake, Dainty Lady, Magic Fire, Sierra Glow, Starbright, Tableau, Tiny Tim, and Tonto. From the triandrus are only Cathedral, Forty-Niner, Merry Bells, Santa Barbara, Sutter's Gold, and Tiara. Among the tazettas the choice narrows to three — Fame, Golden Dawn and Matador.

Not only were the flowers beautiful but their names, too, were so beautiful that other hybridizers wanted to use them for newer originations. In the mid or late seventies there was a move to delete all the O.B.F. cultivar names from the Classified List so they could be reused. This did not happen because the then Chairman of Judging Schools pointed out that many of them were appearing on lists for identification exams in the judging courses. Many others appeared in the lists of a hundred cultivars students had to submit to meet ADS requirements for proof of the number of daffodils being grown. A few of them appear in catalogues and in non-commercial private offerings. Even now it is possible to see some exhibited in ADS American Bred collections as well as other collections, and single stem classes.

Information Sources:

Scattered references in *Daffodil Handbook* published by American Horticultural Society. Article by Jan de Graaf on page 10 - 20 of the 1960 *American Daffodil Yearbook*. Personal correspondence.

PLANTING DAFFODIL SEEDS IN THE NORTH

ELIZABETH T. CAPEN, Boonton, New Jersey

Carey Quinn, chief promotor of the ADS, hoped so much, when he visited us and everyone he could find in the mid 50's who were spreading the word, that Americans would start hybridizing for American gardens.

Carey would have been thrilled to see the large crowd that invaded both the Miniature and the Hybridizers' sessions at a recent national meeting, held where he got us started 34 years ago. How long his thrill would have lasted is another point. Sometimes, there seemed to be more heat than light.

Major speeches came from the warmest zones — 8, 9, 10, where once it was thought only tazettas and jonquils grew. Helen Grier, an original member and hybridizer of the warm belt, explained very clearly her experience with three kinds of containers for seedlings — clay, plastic, and wood.

While Helen and others spoke for the south, I thought someone should speak for the northern tier. As I grow most of our dafs in zone 5 (N.J.), and have a nodding acquaintance with zone 6 (Conn.) and zone 4 (Maine), I thought I should try.

Planting dafs in pots sunk in the garden never occurred to me until after the 1958 ADS Convention in Atlanta. On our return, Jack, Betsey (on her 16th birthday), and I stopped at Charlie Meehan's. Charlie was not only the fancier who framed the ADS Symposium, he had a pretty garden, too. Betsey was fascinated with the little ones Charley tucked in clay pots here and there.

Until then, I had bought from Mr. Gray species and the hard-to-find end of the classification. In 1958, I bought real miniatures — a few each — and planted them in clay pots, sinking in a 50' row down our vegetable garden. Every one of the pots was shattered beyond use over winter. Obviously, clay was not for us. I then planted seeds in wooden flats. This was great for a few years. then the wood disintegrated, and I lost lots.

We have admired the Mitsch's big cold frames. Such is certainly the safest way for anyone feeling the need for winter protection. (And even Elise, in her zone 7, has lost to cold.) However, in our case, and doubtless for many others, cold frames are out of the question. Deer tramp though them.

A few years ago, visiting the Gerritsens, Jack Gerritsen showed me his seedlings, planted right out in his fields. he showed us many little thriving patches of miniatures, his long-time interest, as well as the collars.

Since then, I have followed his example. I plant in labelled and documented (deer) rows in loam well-fortified by peat, against our dry times, of course. Both Jack and I are allergic to weeds, and where we cannot ground cover or heavily mulch, we weed. Tiny seeds must be free of weeds. (It is a relaxing job, when a gardener is bushed from heavier chores.)

Our preferred mulch for miniatures and seedlings is white pine needles. They serve us well, and fortunately, we now have enough mature white pines to take care of us. But, our daughter, Susie Stutts, now in charge of restoring George Lee's place in New Canaan, has discovered a source that would supply a group at a reasonable price. I don't remember the name, but Susie would tell anyone interested.

I wish I had begun in the 50's when Carey worked his proselytizing on me. You know they used to say you had to have a grandfather who hybridized dafs, in order to accomplish anything. Now, we know it takes but an idea and a few years of patience, and anything can happen. I am planting in 1988. I hope many will. I am only a fancier, but I seek things strong in the north, and if we all plant seeds in our tough zone 5 — even 4, we will have, as Carey envisaged, dafs that like what we have to offer.

THE SPECIES FROM SEED

LEE M. RADAN, *Phoenixville, Pennsylvania*

Dedicated rock gardeners look to small plants as the means to an end. There is a saying in the Rock Garden Society that if you can see the plant you don't want it. Rock gardening being the most catholic form of gardening with hundreds of genus being represented, it is a source of constant amazement to me that more of the species daffodils and a few of the modern miniatures are not more represented in our gardens. There is, of course, the fact that many rock gardeners go into periods — I have been through my primula period, my saxifrage period, my androsace period, and now I am in my bulb period.

This has presented a most frustrating difficulty because many of the narcissus bulbs that I want are just not available. However, the seed is available, and so once again, patience must be the virtue that guides us. Since I have been in my bulb period for approximately six years, the fruits of my patience are beginning to bear and the alpine house, beginning in November, is a joy as one after the another of the species daffodils break their dormancy and come into bloom.

I have found that from seed most of the species will bloom in three to five years. The next step is to go from the pot to the bulb frame. The mature bulbs are planted in the bulb frame in cherry tomato baskets and here they can begin to ramp around and split and offset to their heart's content. The third and final step, two or three years further down the road, will be to plant them in as many little microclimates as one can in the rockery, the moraine and the scree. While all of this is going on, it is very important that as soon as you get bloom in either the alpine house or the bulb frame, you get your camel's hair brush or Q-tips to "pimp" the plants to ensure a bountiful seed harvest. This ensures more plants for the future, and it gives you trading power with other enthusiasts.

There are probably 10,000 different composts that are recommended for the handling of alpines and narcissus seed, but I use exactly the same thing that I use for all alpine plants — straight turfus — "Terra Green" out of the bag. This is a soil conditioner which is calcined clay. Two-inch square pots are filled with the material and set in plastic floats. Enough water is put in the float so that by capillary action there is continual moisture in the seed pan.

The seed sowing takes place the week after the Philadelphia Flower Show, approximately the second week of March, along with five or six hundred other packs of alpine seed, which are treated exactly in

the same manner. They are placed outdoors on a shelf in my carport. Being mid-March, there is some freeze-thawing action. Approximately 50% to 60% of the narcissus seedlings appear in April and May. Those that don't germinate are kept over until the following spring. These are placed in cold frames in November and they can start germinating any time between October and May of the following year. When the seedlings do germinate, the water in the trays is charged with Peters Root-N-Bloom, which is a 5-50-17 fertilizer (one half strength) and the seedlings grow on, hopefully not going dormant the first year. Generally speaking, they do not, and you get an extra year by pushing them through and not letting them go dormant. If signs of dormancy become evident, they are immediately pulled from the solution and allowed to semi-dry out until the following spring.

All seedlings remain in the seed pans for a minimum of three years. Then the small bulbs, whether in active growth or dormant, can easily be transferred to pots for continued growing in the alpine house. This is the only method that give sufficient plants to begin to spread about the garden so that you can find where they will grow in the proper microclimate.

I purposely have not given a list of narcissus I am growing because I'm trying to grow every species I can get my little hands on. I have had wonderful luck with the seed exchanges of the ARGS, AGS, SRGC, RGCBC, Nancy Wilson and Mike Salmon. I also have many friends that pass the seed on to me with the proviso that they share in some of the bulbs four to five years down the road.

All growers of species narcissus should be everlastingly grateful to Jim Wells for his outstanding book *Modern Miniature Daffodils*, Timber Press, 1989. *Narcissus: A Guide to Wild Daffodils* by John Blanchard, Alpine Garden Society, 1990, is somewhat more technical, but both books have lifted the fog from growing and identifying species daffodils.

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BEGINNING HYBRIDIZING OR POLLEN DAUBING 101

STEPHEN J. VINISKY, Sherwood, Oregon

Seed Time. Early summer for "Pollen Daubers" can be almost as exciting as blooming season. The seed pods have begun to swell. Some of the early season crosses have pods of good size that are turning yellow. If their stem is gently shaken it is easy to hear the rattle of ripe seed. Your flower has done its part and provided you with seed. In return, your part is to raise that seed until it grows a bulb that is large enough to produce a flower. Each one of the black, hard and glossy seed represents your personal vision of a future daffodil. Harvesting and planting these precious "black pearls" is the subject of this and September's article.

Harvesting: Dr. Throckmorton mentioned a very clever and easy way to manage the collection of seed. It has proved so workable for me I believe it bears repeating. Go to a hospital or a surgical supply company and get a roll of Tube Gauze. This is the stuff a doctor would pull over a cut or mashed finger. After the flower has turned brown and is dry you take about a six inch length of tube gauze and tie a knot in one end. Slide this gauze tube over the swelling pod. Loosen the hang-tag (with the seed and pollen parent carefully written on it) and re-cinch the string on top of the gauze tube. The developing pod is enclosed in a soft, stretchable sock that is tied at the top and cinched with the hang-tag string below the pod. You are now free of having to check developing pods daily. The pod can ripen and open and not a seed will be lost. You can harvest your crop of little socks at your convenience. As a bonus, it is easy to see the white gauze in the rapidly yellowing and floppy leaves. I have found a few of these sockfuls of seed laying on the ground in September. They were missed when harvesting.

After you have collected your seed you can plant it right away or put it in envelopes (small coin envelopes seem to be about the right size) for late summer planting. As the seed goes in the envelope I mark the outside with the seed and pollen parent. Store the envelopes in a cool, dry place until it is convenient for you to plant. There has been no noticeable difference in germination when there has been a difference in planting times.

Planting: There are only two topics of debate in the daffodil world regarding planting seed. The first area of debate is the *How* (i.e. How deep? How far apart? How about planting in open ground? How about cold frames or pots?)

The second area of debate is the *When*. (i.e. When do I plant? Now? Labor Day weekend? July 4th?)

Officially, we are told to plant seed "as the seed are ripe, sow them one to two inches deep in flats or open ground." This is probably the best or most optimum method to use. The point here is that even if your growing conditions are not the best or you can only manage a one gallon plastic pot, try it and you will probably have some success. You can be a long way from the "optimum" and still have good results. Try it. The big thing is to get your seed into a pot, a flat, or the ground.

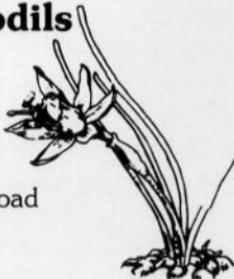
If any of you have a method of harvesting or planting seed that works for you; Please write me and we can share it with all.

Steve Vinisky, 21700 S.W. Chapman Road
Sherwood, Oregon 97140

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RANDOM RAMBLINGS

MARY LOU GRIPSHOVER, Milford, Ohio

I was talking to a friend very early this spring, and she said she had just been out in the garden checking on the progress of her bulbs. She said, "You know, I'll always grow daffodils, even after I quit showing. I was out there, ruining my manicure, digging in the dirt to see if the bulbs were coming." I laughed with her, and admitted I had been out doing the same thing. We agreed that the very earliness of the flowers was one thing that made daffodils so appealing. We're anxious for winter to be over, and we can't wait to see the daffodils.

That conversation got me to thinking about the earliest daffodils. In my garden some of my miniature seedlings are the first daffodils to bloom, but *N. minor*, Wee Bee, Tete-a-Tete, Small Talk, and Bagatelle aren't far behind. We have a large boulder near the end of the driveway which since we couldn't move it, we incorporated into one of the flower beds. On the street side I've planted early blooming Cornet (always my first standard), Shimmer, Dik Dik, and some Bagatelle. A day or two later Honeymoon adds its pale lemon color. Prologue, a marvelous bicolor trumpet, opens about the same time as Honeymoon, stands up well to rain and wind, and lasts a long time. The sixes as a group are early, though those mostly pink and white bred from Foundling are generally later. El Camino stands tall, and increases well, though it doesn't reflex as much as some others. For a touch of pale pink early on, try Sonia Sloan. Earliest of the yellow/reds here are Falstaff and Court Martial. Honeybird's lemon tones are early, with Pops Legacy a day or so behind. Earliest of the all whites here is Greenholm, while Nancegellan and Happy Hour are the earliest jonquil hybrids. Then you get a couple of days of hot weather and everything comes on at once!

I am reminded again this year how much the flowers grow as they open and reach maturity. Often, we cut to exhibit just as the flower opens to prevent burning or wind damage or whatever. But if you can let the blooms mature on the plant, you may be amazed at the difference in the flowers. A good friend of mine says that my flowers are too small, and while they'll never reach the size of his, even he might be satisfied with the size of some of the mature blooms still on the plant.

I have been impressed with the keeping qualities of several flowers this year. Ibis withstood the elements for two weeks and was still fit to exhibit. It has taken a long time to settle in my garden, though. Prologue, Falstaff and Court Martial are still in bloom after two weeks. And the color has been great, with no burning in the red cups. Tonga, too, is looking good, and shows no signs of blasting; Unique and Acropolis, however, show varying degrees of blasting, with Unique's form damaged, while Acropolis will probably not even open.

Invitations to judge caused me to travel to several cities, and I was impressed in Knoxville with the mass planting of daffodils on the Pellissippi Parkway. Many thousands of mixed bulbs have been planted following the slopes along the Parkway along a several-mile-long stretch. This is a relatively new planting, which should be magnificent in a few more years when the blooms increase. And at the area in Louisville where I-71 ends at I-65 there are thousands of daffodils of one variety planted in a free form drift. One patch of yellow was in glorious full bloom, while another area had already finished blooming. Surely the people who pass these plantings daily must have their spirits lifted by such sights.

DAFFODILS FOR BEGINNERS

(From the Convention workshop presented by
Peggy Macneale and Harold McConnell)

CAROLYN ROOF, Paducah, Kentucky

When I walked into "Daffodils for Beginners," Peggy Macneale asked, "What are you doing here?", and added that she wasn't sure anyone was coming after looking at the list of convention attendees. She had nothing to fear, many must have felt as I did, every once in a while it is good to get back to basics.

That is just what Peggy did, beginning with "How To Start," new collectors (and seasoned ones) were told to begin by looking at what is growing in the back yard. Is it worth fooling with — i.e. separating, replanting? It takes just as much time to plant new, good varieties as ones that do little more than send up foliage. Do they all bloom at the

same time? If that's what you want that's OK, but if you want a longer season then plant different varieties.

Having surveyed the yard, the next step is to order catalogues. Peggy warned against the junk catalogues. Most do not really offer bargains. They are known to make up names and color, going so far as painting Spellbinder green and calling it Pastachio. Most, however, offer limited selection of old Dutch varieties. The handout given us listed both specialists and general bulb catalogues, which offer new interesting varieties that have improved substance, color, and form. I have found they also stand behind their bulbs and can't remember more than one that wasn't perfect.

Having studied your yard and received the catalogues, it is time to get down to serious study. If you want mass plantings, lesser priced bulbs are what you want and you will want bulbs that are generous of bloom and good increases. Peggy said to look for certain key phrases: "generous bloom", "good increaser", "good for the garden", "vigorous", "good substance", "strong stem", (to withstand the wind), "tall" (so that the bloom is above the foliage, making it showier in the garden), clarity, and disease resistant and tolerance.

Check for blooming times. Some will be noted E, M, or L. While others will carry the notation, 1, 2, 3, or 4. Also check for awards received. Some growers will list flowers for Wisley Awards for Garden. In 1990 Bravoure and Golden Dawn received FCC (First Class Certification); and Rainbow and Jefire, HC (Highly Commended). Other good old garden flowers are: Ice Follies, February Gold, Trevithian, Thalia, Cantabile, Accent, Hollyberry, Firetail, Armada and *N. poeticus*. Some new ones include: Larkwhistle, Badan Loch, Delnashaugh and Gold Convention.

Involve your children, grandchildren, etc., by letting them pick by name or color.

Why collect show flowers? To take advantage of genetic breeding that is producing better substance, color and new forms. The better substance produces blooms that are very turgid, withstand weather and last longer. This is especially important if you paid \$30 for the bulb, you want the bloom to last. Tripartite is an example of a brand new form, that everyone seems to like.

When reading the catalogue, look for phrases: "still a winner", "good neck" (short), "good pose". "holds color", "weatherproof" and "does not burn". Check for its pedigree. Certain parents have great genes for disease resistance, vigorous growth and color. Empress of Ireland and East Moon are both good breeding parents. Troussseau is great for disease resistance especially basal rot.

The best way to build a collection is to set a goal for each year and buy each year. Order early to get not only what you want, but a discount. Go together with several for a joint order for a group discount, or order collections. Think about the Australian or New Zealand growers, or order from Duncan, Hatfield or Reed for acclimated ones. Think ahead. Where is your collection weak? What colors or divisions are missing? And don't forget blooming time.

Don't let prices intimidate you. To get bulbs to market may take more than ten years. The Empress of Ireland was originally \$300. A good bulb will cost less than a good dinner out and the pleasure lasts longer.

This summer, while it is hot, make labels and a master list that includes ordered, bonus and exchange bulbs. (Note: each of us has the perfect labeling and record keeping method. There is only one best way, your way.) Keep name, breeding, coding, source, year, price, number of bulbs and blooms each year on a file, or in a computer.

A few words on planting: A bulb planter is not deep enough; dig at least a nine inch hole, place potato fertilizer (low N and high P for color and stem strength) in the bottom, work in an inch of soil, a handful of perlite, bulb, then fill the hole. Water, water and water in the fall especially if it is dry. The water will greatly increase the bloom size.

When show-time arrives, watch the weather. Blooms may be picked and stored in a non-self-defrosting (manual defrost) refrigerator for two weeks. Write the name and coding on the stem immediately as picked. If the bloom needs to develop more, place in warm water. If it is at peak put in ice water. Judge as you pick, and pick for certain classes. The bloom should be fully exposed, have mature color and fresh substance, and clean off dirt at once.

At this point Peggy turned the program over to Harold McConnell, a fellow S.W.O.D.S. member. He proceeded to tell us how he plants, labels, picks and shows.

First, invest in *Handbook for Growing, Exhibiting and Judging Daffodils*, then visit shows in your area to see what is good and what grows well in that area. Harold grows in raised beds because he can control the soil. He also controls the elements by building beds near buildings, and planting windbreaks. For winter mulch straw is used, in the spring pine needles are used to keep the blooms clean. It is more expensive, but worth not having to clean mud off blooms.

Labeling is important. Harold found a unique method: white plastic picnic knives marked with a sharp black marker. (The styrene will become brittle in a few years, but the plastic knife is cheap enough to replace).

Water as needed. In the spring the sprinkler is used until blooms appear, then a hose is used to avoid water marks.

Pick show quality 2:00 - 3:00 p.m., on a clear day. Place in warm water to bring out. Helen Link had told him to put the stems in ice water to immediately harden off if the bloom is where you want it.

If the bloom is dirty, clean it. Most exhibitors suggest distilled water, Harold uses filtered tap water that is slightly warm. He avoids soap unless there is a stain on the back of the petals. Q-tip 'cosmetic applicators' have flatter heads and are larger than the standard size Q-tip and come in handy when cleaning.

Getting to the show can be a disaster. Harold's carrier is cheap, easy to duplicate, and easy to transport. The base is an under-the-bed-storage box filled with double diapers. Each bloom is inserted in a square of the cloth then placed in the diaper fold. The boxes can be stacked and car air conditioner run without harming the blooms. Each set up is less than \$5.00.

At the show individual specimens are labeled with cards that are slit horizontally top and bottom and slipped over the stem. No more trying to find card holders. Harold does premake the cards slipping them into the holders stuck into a sponge. Once at the show it is easy to find the appropriate card and the sponge takes care of any spills.

The workshop was billed as "Daffodils for Beginners." It was really for everyone who grows daffodils. We learned new tricks and were reminded about the basics.

I thoroughly enjoyed it, took lots of notes, and am looking forward to better blooms next Spring.

THE USE OF PINE BARK MULCH AS A SOIL AMENDMENT

BARRY NICHOLS, Mt. Pleasant, Texas

We all know the old saying about planting a fifty cent bulb in a five dollar hole. We also know just how true this adage is in good garden practice. The success or failure of our plantings, whether it is shrubbery, perennial plants or daffodils, often depends upon the soil in which they are planted.

A large part of the South's timber industry comes from the short leaf or loblolly pine. These trees in turn go to our many pulpmills and

sawmills. At one time the pine bark was considered a waste product. Now many of the mills are burning the bark as a minor supplemental energy source for their own use, but its greatest use to horticulturist is as a growing medium for container plants and as a soil amendment in landscaping.

In the southern states, because of ever increasing shipping costs from Canada, peat moss is an expensive soil amendment. Due to our high summer temperatures it breaks down quickly in the soil. Pine bark, on the other hand, is a long lasting organic material that can be purchased in bulk or in bags. It is readily available at nurseries and garden centers. Being locally produced the cost is low. It is light weight, clean and easy to handle. Pine bark is easy to incorporate into the soil by tilling or mixing in with a shovel. Although some brands will vary in texture, other than for aesthetic reasons, all grades seem to give the same results. In some areas soil mixes containing bark are available for container growing or for filling in raised planting areas. This can be an excellent way for people who have small areas or limited time and abilities to create a planting area.

Pine bark improves all types of soil. Incorporated into sandy soils it helps retain moisture between the bark particles. Being organic in composition it holds nutrients that would normally leach out. Pine bark becomes almost a miracle additive to clay soils. We have found no other organic additive to last as long and go as far in soil improvement. With the addition of some sand this creates an ideal growing medium. One caution is to always "build up" or raise any soil improved bed in a clay area, otherwise the new bed would act as a bathtub to hold water running off of the surrounding soil surface. Remember drainage is one of the most important considerations in raising healthy daffodils. Bark also buffers the soil due to its insulating abilities.

Since pine bark breaks down slowly it does not steal nitrogen from the soil or plants. Being coarse in texture it creates improved capillary action and drainage. In clay soils it does not cause soggy beds as peat moss, sawdust or compost would. Being acid in reaction it helps neutralize alkaline soils. In most soils lime is not necessary to balance the bark's acidity. However, in very acid areas the addition of lime may be necessary. It is always a good practice to have a soil analysis performed every few years. If lime is needed we have found that dolomite lime which contains magnesium (a necessary element) to be the most effective.

One added benefit from pine bark use has surfaced in recent years. In laboratory tests soil mixes containing pine bark have less incidence of fungal and bacterial diseases. This is due to improved soil aeration

and microbiological activity. The encouragement of microhesia (a beneficial soil organism) that associates itself with plant roots is necessary in that this balance helps fight fungal and bacterial pathogens. As an example, it is now known that the failure of most Lady Slipper orchids (*Cypripedium*) in cultivation is due to the lack of this relationship. With so many soilless and sterilized growing mixes we are now finding increased disease problems due to the lack of soil organisms. Many of our fertilizers and insecticides and fungicides upset the blance of those naturally occurring organisms. Therefore, anything we can do to encourage soil health also improves our bulbs's well being. Mixes containing pine bark have become irreplaceable to the nurseries raising azaleas and rhododendrons and other plants that have high death rates from soil diseases.

We accidentally discovered the improved growth of daffodils in beds prepared for azaleas. After a few years, increase was profuse and blooms were exceptional even on cultivars not known for their longevity in the South. With this success we then incorporated pine bark into the soil in three of our show beds. The results were noticeable after the first blooming. The improvements were most noticeable after three springs of heavy rain during the foliage ripening period. Losses were extensive in the beds that did not have the bark amendment. Most of our beds are a combination of shrub and daffodil mixes and are under an automatic sprinkler system. With our high summer temperatures in Texas, often over 100 degree for days on end and daily watering for the shrubs, daffodil losses can be extensive. With the addition of bark in place of peat moss we are now able to plant a broader range of choice cultivars.

Since we are also growing a great number of our daffodils in Ohio, we have found equally satisfactory results on rot prone cultivars. This was particularly evident after the record spring rains of April, May and June of 1989.

When the bark has been used as a mulch, and the bulbs have been lifted, we till in the old mulch and add a fresh layer to the surfaces.

Due to the higher cost of pine bark in Ohio we only mulch with finely shredded fresh tree trimmings from the local tree trimming companies and we are careful not to incorporate much of this into the soil as it robs nitrogen. Sawdust should be used with caution because it can deplete the nitrogen supply in the soil and old sawdust, if not properly composted can become toxic through anaerobic decay.

If you have a problem planting area and a basal rot problem as well, perhaps trying a new planting area this fall incorporating pine bark will prove successful.

OF DAFFODILS AND . . .

PERSEPHONE

ABOUT EATING ONE'S WORDS. I must admit that when I have my druthers, I'd druther not have to eat crow — or my own words. However, having to do so in this case puts me in good company for it was the late, great Dean Herbert who insisted that a drawing of *N. cyclamineus* was a figment of someone's imagination and that it was "an absurdity which will never be found to exist."

As we all know it was Prof. Tait who found the species growing in the wild and thus was able to prove that there was and is a *N. cyclamineus*. In my case, proof came from Tasmania when Rod Barwick sent me some bulbs to bear out the contention that there is a *N. jonquilla stellaris*. Until then I could only find brief mention of this species in two of the many sources I had consulted and neither of these indicated when or where the original had been found, and there is no arboretum specimen of it at Kew (or anywhere else I can learn about).

So, I just concluded that the elusive *N. jonquilla stellaris* was a parallel of the Tichborne claimant, in fact, or Mrs. 'arris, in fiction — i.e. there warn't no sech thing.

I still don't know when or where this species was first found but I will admit that I must have been wrong, wrong, wrong.

Comparing this with my various jonquillas (from several different sources) the one called stellaris is very similar in height, stem and foliage (except the latter has somewhat longer leaves that are prostrate and precisely curled in a neat circle). As to the difference in flower (there are about 3 florets per stem) when flattened out the stellaris measures 3 cm, each segment 1 cm long. Usually these are sharply recurved. The little cup is very distinctive, 1 cm wide, 5 mm deep, with six, deep, precise lobes. (This form is infrequently found but I have had some forms of *N. rupicola* and one strain of *N. odorus* that have this same characteristic.)

Now all I can say is that having admitted error I can only add that to me, at least, *N. jonquilla stellaris* is no great addition to this group, for it lacks the perfect, pleasing form and proportions of dear little *N. jonquilla*, looking just like the picture of its ancestor in Burbidge and Baker.

ABOUT DISTINCTION. When an amateur grower was beginning to produce a lot of seedlings and wanted to drop the characteristic "distinction" from consideration in judging seedlings, I was one of those who strongly opposed the idea. Well, it is no secret about who won that argument. But now we are seeing the results that were predicted — i.e. just too many seedlings that lack true distinction are now being

introduced and registered. Nothing before or since could be confused with some of my favorites, e.g. Ludlow, Pigeon, Cloneen or Cotterton. I could add a number of other names but these can prove my point.

Since I still believe that distinction should be considered in evaluating a seedling, I wonder if we couldn't offer a special recognition for those seedlings that do truly have this quality? Right off I can think of two introductions that should have had such recognition — Foundling and Flyaway! (Do I see any hands going up in agreement?)

SPEAKING OF TROPHIES AND SUCH. I look back on the various trophies and outward and visible signs of some honors my daffodils and arrangements have won over the years and I think "how imaginative and clever some committees were!" Then I think of many I didn't bother to save and remember what one exhibitor once said, "Let's face it, any household can absorb only so many bon-bon dishes!" At the time my response was "too true!" and it remains the same today. Of course my collection of Sterling julep cups and goblets have been a constant pleasure over the years, ditto could be said about a handsome, antique Japanese woodcut, and two wonderful antique Japanese containers. Now, I've seen something that belongs in that distinguished group — gifts that Jean MacAusland has designed and made for the special judges that serve the Nantucket show. When Bernice Ford stopped by for a visit recently she showed me four of these she cherished, with good reason.

They are flat scrimshaw disks (which can be used as charms on a bracelet, as a pendant necklace, or could be made into a pin or earrings). Each year a different daffodil is used as a model — so a collection of them could be viewed as a hall of fame of beautiful daffodils. These are done by a special and gifted jeweler who has a gift shop in Nantucket — and I do mean gifted! These are exquisite!

This is a reminder of how *much* it means to receive a trophy or gift like this and makes me wonder why more show committees don't make the effort to find meaningful gifts and trophies.

ABOUT LIVING TROPHIES. One reason the various shows with which I was associated over the years always resulted in a marvelous response of exhibitors was that we offered very special awards. Not just interesting, unusual and valuable things for the arrangement class winners — but truly desirable bulbs for winners in the horticultural classes. This was made possible through the cooperation of Grant Mitsch.

The way it worked was that we got together as much money as we could afford — sent it, along with description of classes that would qualify. Then he made the selections — and what selections they were! Not just bulbs he had a good stock of and would like to move out, but outstanding new cultivars, in many cases not available otherwise. In many cases a single bulb like this made it worthwhile for an exhibitor to travel many miles to attend the show.

We even followed this system for giving novice awards and here, Grant was just as generous. As you might imagine, when a novice received a fantastic bulb as an award, that novice soon made it a point to become more expert as a grower and exhibitor.

I no longer have anything to do with shows, but I still think this idea had merit for those who do.

AND SPEAKING OF SHOWS reminds me of the most memorable I ever attended — not only for me but also for Virginia Curran. We proved that the old adage "half the fun is getting there" didn't always work out.

In my case a large station wagon was loaded down like a gangster's funeral — the entire back end filled with coke bottles with stems of the most gorgeous daffodils, all in prime condition. It was a lovely misty-moisty day when we started out — and the flowers looked fresh and lovely, until we hit the Valley Road (old Rt. 11) when the sun came out hot and strong, shining right on those flowers.

In the rear view mirror, I could see them drooping by the minute. Very soon it was panic time, but fortunately we came through a small town with a florist. As it happened they were very busy preparing the flowers for a funeral but were persuaded that our need was more pressing, or immediate!

They helped us change water in all the bottles — then, at a nearby grocery store I found a large roll of aluminum foil and freezer tape — with which I lined all the windows in the station wagon. We looked a bit bizarre — in fact our passing didn't go unnoticed by any others along the way. After four hours we reached Roanoke where we could unload and perform plastic surgery and mouth-to-flower resuscitation, to our daffodils.

GOOD DAFFODILS AVAILABLE IN 1991 FOR \$3.00 OR LESS

Trumpet, Division 1:

- Y-Y Viking, *Arkla, Golden Rapture, Olympic Gold, Arctic Gold
- W-Y *Preamble, Jet Set
- W-W Queenscourt, Cantatrice, Perseus, *Inniswood
- Y-W Chiloquin, Honeybird, Lunar Sea

Long Cup, Division 2:

- Y-Y Golden Aura, *Amber Castle, Camelot, Symphonette, *Tristram, Oneonta, Butterscotch
- Y-R/O Bunclody, Vulcan, Shining Light, Resplendent, Loch Stac
- W-Y Chapeau, Festivity, Tudor Minstrel, Bit-O-Gold

W-R/O	Ringleader, Avenger, Irish Rover, *Arbar
W-P	Salmon Spray, Romance, Coral Ribbon, *Violetta, Propriety, Roseworthy, Accent, *Jewel Song, Salome, Mrs. Oscar Ronalds
W-W	Polar Circle, Wedding Bell, Broomhill, Ben Hee, Glenside, Ave
Y-W	Daydream, *Bracken Hill, Cloud Nine, *Bethany

Small Cup, Division 3:

Y-O/R	*Perimeter, *Ardour, *Sunapee
W-Y	Old Satin, Aircastle, *Woodland Prince, Eminent, *Silken Sails, Grace Note
W-R/O	Merlin, Corofin, Palmyra, *Woodland Star, Dress Circle, *Silent Cheer
W-P	Gossamer, Audubon
W-W	Verona

Double, Division 4

1 bloom to a stem: Acropolis, Unique, Tahiti, Papua, Hawaii, Tonga

More than 1 bloom to a stem: Cheerfulness, Yellow Cheerfulness, Sir Winston Churchill

Triandrus Hybrids, Division 5

W-W	Tresamble, Ice Wings, Petrel
Y-Y	Liberty Bells, Lemon Drops, Sidhe, Stint

Cyclamineus Hybrids, Division 6

Y-Y Charity May; Y-O Beryl; W-Y Dove Wings; W-W Jenny, Y-R Jet Fire

Jonquil Hybrids, Division 7

Y-Y	Sweetness, Quail, Trevithian, Oregon Gold, Stratosphere
Y-O	Bunting, *Kinglet
Y-W	Pipit, Dickcissel, *Chat, Oryx
Y-R	Suzy
W-W	Eland

Tazetta Hybrids, Division 8

W-Y Geranium; W-W Silver Chimes; Y-GYO Highfield Beauty; Y-GOO Canarybird

Poeticus Hybrids, Division 9

Actea, Perdita, Cantabile, Mega

Split Corona, Division 11

Baccarat, Mistral, Cassata, Lemon Beauty, Mondragon,
Palmares, Reisling, Sovereign, Tricollet

Miniatures:

April Tears, Bagatelle, Hawera, Minnow, Sundial, Tete-a-Tete, Baby Moon, Clare, Bobbysoxer, Chit Chat, Sun Disc, Little Gem, Pixie's Sister, Jumblie

* If an overseas order, the postage is included in the cost estimate.

THE BEST THAT MONEY CAN BUY

RICHARD EZELL, *Chambersburg, Pennsylvania*

Dear reader, eager to raise your status and lower your bank balance? This is for you. When I saw Mary Lou Gripshover's well-chosen, extremely useful list of good show daffodils available at reasonable prices, I said to her semi-seriously, "Now, you must do a list of the best available at *any* price." "Oh, no, Richard," she replied in a similar vein, "it's your turn."

It is almost two years later, but I have done it, with lots of help, to be sure, especially from Marie Bozievich, Bob Spotts, and Delia Bankhead, and from many others as well. Still, you must yell at me, not them, for I am responsible for all the egregious errors of inclusion and omission, and all other errors (save typographical . . . I'll blame the editor for those.)

My self-imposed limitations: 1) No miniatures, for various reasons, including the small number of possibilities and uncertain availability; 2) choices are based upon their performance in the United States — Old Newcastle and more recent Park Springs have racked up enviable show records elsewhere, but are dismal here; 3) all should be available for purchase — most are listed, some you might have to twist the grower's arm to persuade him or her to part with a bulb; 4) all must have been grown here, or at least observed carefully — and more than once. I have done my best not to tilt toward any growers or regions, but I am, alas, generally more familiar with cultivars raised in the northern than the southern hemisphere. (Some of my special favorites — Declare, Modulux, and Red Ember — hail from down-under.)

You will pay dearly for many of these, but a few, now Dutch grown, are widely available, and represent the greatest bargains among show daffodils: Daydream, Rainbow, Tahiti, Unique, Ice Wings, Petrel, and Quail, for instance.

The cultivars are listed by division and grouped for convenience a bit arbitrarily according to a simplified reading of their color codes. Please, reader, be careful here. Don't use this list as final authority for your Throckmorton entries: that marvelous flower, Hambledon, used to be 2 Y-WWO, but was 2 YW-WYY last I heard . . . it's with my 2 Y-Y's. Cyros is a special case: *Daffodils to Show and Grow* puts it in Division 2; the *International Daffodil Checklist* of the Royal Horticultural Society has it in Division 1, but with the note that it varies between the divisions. To me it looks like a trumpet.

The list here printed is altered significantly from the one I made a year ago. It would probably be dramatically different should I do it again in another couple of years. And I just might, so for that reason, as well as for the sheer joy of exchanging opinions (I almost said "arguments"), let me know of your suggestions for additions and deletions.

No guarantees are offered. You cannot buy a Quinn medal, only the raw materials which you must grow, groom, and stage with intelligence and care, but listed below, I assure you, are some mighty fine raw materials.



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- 1 Y-Y: Baradoc, Comal, Golden Dale, Goldfinger, Midas Touch
 1 Y-O: Corbiere
 1 Y-W: Chiloquin, Epitome, Gin and Lime, Pay Day, Sweet Prince, Trumpet
 Warrior, Young American
 1 Y-P: Lorikeet, Fidelity
 1 W-W: April Love, Neahkahnie, Panache, Silent Valley, Vapor Trail
 1 W-P: Pink Silk, Tardree
 1 W-Y: Cyros, Downpatrick, POPS Legacy, Tudor Dance
 2 Y-Y: Bryanston, Demand, Euphony, Gold Bond, Gold Convention, Golden
 Aura, Golden Joy, Hamdledon, Reference Point, Top Notch
 2 Y-R/O: Golden Amber, Loch Hope, Loch Katrine, Loch Maberry, Loch
 More, Resplendent

KNIERIN



TARRY

Resplendent

Pipit

Just to prove that money isn't everything, here are two of the eighteen flowers on both lists, Resplendent (2 Y-R) and Pipit (7 Y-W)

- 2 O-R: Charleston, Creag Dubh, Limbo
 2 Y-P: Chemeketa, Highlite, Nacre
 2 Y-W: Altun Ha, Daydream, Halstock, Hartgrove, Lemon Candy, Sungem,
 Swedish Fjord
 2 W-W: Areley Kings, Ashmore, Gull, Homestead, Immaculate, River Queen
 2 W-P: Culmination, Dailmanach, Declare, Fragrant Rose, Pol Voulin,
 Quasar
 2 W-rimmed P: China Doll, High Society, Rainbow
 2 W-Y: Modulux, Newport, Pure Joy, Urbane
 2 W-R/O: Avenger, Hotspur, Loch Brora, Rameses, Young Blood
 2 W-rimmed R/O: Conestoga, Diablo, Lysander, Ringleader, Verve
 3 Y-Y: Citronita, Ferndown, Johnnie Walker, New Penny, Walden Pond
 3 Y-R/O: Achduart, Red Ember, Solar Tan, Stanway, Trelay
 3 Y-rimmed R/O: Badbury Rings, Golden Pond, Irish Coffee, On Edge, Sunapee,
 Timolin



Highfield Beauty

Avenger

Two more of the select group, Highfield Beauty (8 Y-GYO) and Avenger (2 W-R)

RICH

3 O-R:	Benefactor, Bossa Nova, Prairie Fire
3 Y-W:	Citron, Lyrebird, Silk Stocking, Wedding Band
3 W-W:	Achnasheen, Angel, Beautiful Dream, Cool Crystal, Mary Baldwin, Princess Zaide, Sea Dream
3 W-Y:	Aircastle, Dunley Hall, Eminent, Rivendell, Halley's Comet
3 W-rimmed Y:	Limey Circle, Rimmon, Silken Sails
3 W-R/O:	Dalhauine, Dr. Hugh, Loch Roag
3 W-rimmed R/O:	Colley Gate, Gowo, Halgarry, Merlin, Olathe, Purbeck, Royal Princess
4 Y-Y/R/O:	Beauvallon, Crackington, Elixer, Grebe, Sherbourne, Spun Honey, Tahiti
4 W-W/R/O/P:	Androcles, Gay Kybo, Gay Ruler, Night Music, Pink Paradise, Snowfire, Unique
5 Y-Y/O:	Harmony Bells, Ice Chimes, Jovial, Ruth Haller
5 W-WP:	Akepa, Arish Mell, Ice Wings, Jingle Bells, Petrel, Sunday Chimes
6 Y-Y/R:	Backchat, Elfin Gold, Jetfire, Rapture, Warbler, Willet
6 Y-W:	Inca, Swallow, Wheatear
6 W-P:	Bilbo, Carib, Cotinga, Elizabeth Ann, Foundling, Kaydee, Lilac Charm
6 W-W/Y:	Cazique, Durango, Ocean Breeze, Pepys, Perky, Treena
7 Y-Y:	Circuit, Quail, Stratosphere, Sweetness
7 Y-W:	Intrigue, Oryx, Pipit
7 Y-O:	Triller
7 O-R:	Indian Maid
7 W-Y/W:	Dainty Miss, Eland, Fruit Cup
8 Y-Y/R/O:	Castanets, Falconet, Highfield Beauty, Radiant Gem
8 W-W/Y:	Aspasia, Avalanche, Polly's Pearl
9:	Angel Eyes, Cantabile, Ireland's Eye, Killearnan, Red Rim, Torr Head
11:	Cum Laude, Phantom, Tiritomba, Tripartite
12:	Bittern

Notes

The criterian was chiefly merit for show purposes, but many of these will make superb garden flowers: Golden Amber, Tahiti, Pipit, and Petrel are a few of my favorites for that purpose.

Some cultivars *barely* made the list. Gin and Lime, Downpatrick, Charleston, Ringleader, Sea Dream, Silken Sails, Quail, Sweetness, and Pipit, plus some others, have been questioned by discerning critics.

Many more almost made it: older trumpets like Viking and Carrickbeg can be awfully good, as can more recent ones like Swain, Golden Vale, and Prosperity. Bravoure has many show successes, but sports a thick, ungainly trumpet. Little Lavalier also wins, but seems to me a stiff and ungraceful intruder among the lovely flowers in Division 5. Among the whites in Division 2 are so many fine flowers (mostly hard to keep alive in my climate): Broomhill, Chinchilla, Moon Valley, Mount Fiji, Guiding Light, Springston Charm, Misty Glen, and more. And what a glorious flower old Woodvale can be, with its pale yellow rim.

I think the best pink cup I ever saw was a bloom of Gracious Lady exhibited by Frances Armstrong. But that was ten years ago, and I haven't seen a good bloom of it since, and she tells me she hasn't either. Pol Dornie? Obsession?

How can I leave out Bulbarrow and Silken Sheen, and Broadway Village and Casterbridge, Loch Lundie and Loch Rimsdale? (Well, for the latter two, I think I just got tired of listing so many "Lochs.")

Bee Mabley, which is the only bulb you can order from the ADS Executive Director, is a marvelously consistent beauty that probably should be on the list.

I've started a new list of things I'm totally unfamiliar with, but must see and/or grow, because they are highly regarded by people I regard highly: King's Grove, Compute, Stormy Weather, Cryptic, Potent, Flying Nun, and Abracadabra are some of those.

At the bottom of the list find Bittern, deservedly at the bottom ...it's not a good show flower, but it's better than the only other standard Div. 12 I know, Dovekie. Work on it, hybridizers.

"SOUTHERN REFLECTIONS" – A WINNER

The Georgia Daffodil Society proudly announces that the 35th Annual National Show of The American Daffodil Society, held at Callaway Gardens, Pine Mountain, Georgia, on 29 - 30 March, 1990, has won National and State Awards. The Show won an award from The Garden Club of Georgia, Inc., and also received a National award from the National Council of State Garden Clubs for achievement in a flower show by a plant society. The schedule for the show also won an award of excellence.

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