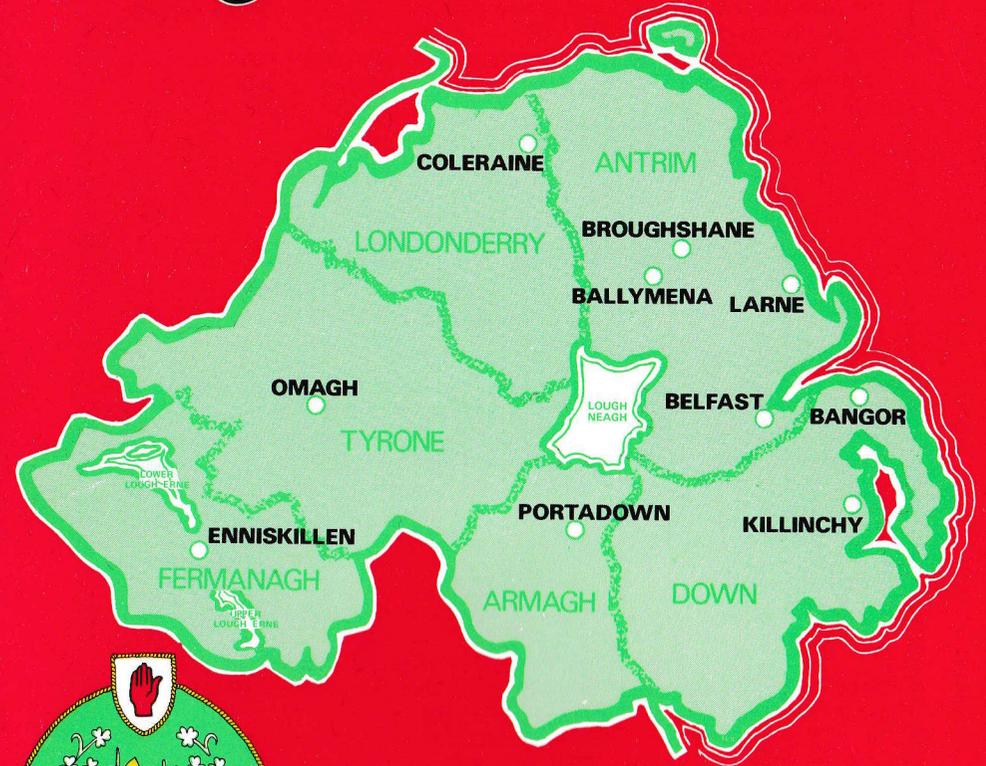


Newsletter

of the
**Northern Ireland
Daffodil Group**



Half-yearly publication of the
Northern Ireland Daffodil Group

OCTOBER 1990
ISSUE

System of Classification

1. The classification of a daffodil cultivar will be that which is submitted by the person registering the cultivar, or will be based on the description and measurements submitted by such person.

2. The classification will consist of a division number and a colour code (for example, 1Y-Y, 2YW-Y, 3W-WWR, or 4Y-O).

3. The numbered divisions in which a daffodil cultivar may be placed are defined on inside back cover.

4. Measurements taken in determining between Divisions 1, 2 and 3 will be those of the flower at maturity. The length of the perianth segments is the measurement from the tip of one segment when flattened out to the base of the corona. The length of the corona is the measurement from the base of the perianth segments to the furthest margin of the corona.

5. a) The colours and equivalent code letters which may be used to describe a daffodil cultivar will be those of the flower at maturity. They are:

White or Whitish	W
Green	G
Yellow	Y
Pink	P
Orange	O
Red	R

In distinguishing Orange from Red in daffodil classification, borderline colours including and on the yellow side of RHS Orange Group 29 are said to be Orange; those including and on the purple side of Orange-Red Group 30 are Red.

b) The colour code will consist of two letters or two groups of letters separated by a hyphen: the letter(s) before the hyphen will describe the perianth segments (the "petals"); the letter(s) following the hyphen will describe the corona (the "trumpet" or "cup").

c) For purposes of description the perianth segments will be divided into three zones: outer zone, mid-zone and base; and the corona into three zones: eye zone, mid-zone and rim.

d) If the perianth segments are substantially of a single colour, a single code letter will describe them; if they are of more than one colour, either two or three code letters will be used, describing the outer zone before the mid-zone and/or base.

e) If the corona is substantially of a single colour, a single code will describe it; if it is of more than one colour, three code letters will be used, describing the eye-zone before the mid-zone and rim.

f) In double daffodils the code letter(s) before the hyphen will describe not only the perianth segments but also any extra perianth segments (being of the same colour), even if they are interspersed with the corona at the centre of the flower; the code letter(s) following the hyphen will describe the corona or the segments of the corona. Multiple letters before or after the hyphen will in doubles as in all other daffodils indicate that there is more than one colour from outer zone to base of the perianth segments or from eye zone to rim of the corona or the segments of the corona.

Continued inside back cover

THE NORTHERN IRELAND DAFFODIL GROUP

NEWSLETTER

Vol. 3 No. 7

OCTOBER 1990

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Rules of the Northern Ireland Daffodil Group

1. Title

The group shall be called "The Northern Ireland Daffodil Group Society".

2. Registered Office

The registered office is 1 Glenholm Crescent, Belfast BT8 4LT.

3. Objects

The purpose for which the Society is established is the advancement of horticultural education through the study of the genus Narcissus and in furtherance of such purpose:

- (i) to promote public participation in the said educational purpose;
- (ii) to promote the establishment of public gardens or of display beds in such gardens which include plantings of Narcissus bulbs;
- (iii) to provide bulb stocks for plantings within para (ii) above;
- (iv) to promote, or advance scientific or practical research into the breeding, cultivation, and production of Narcissus cultivars;
- (v) to promote, or advance the study of Narcissus diseases and pests with particular reference to making Northern Ireland an international centre for the production of healthy stocks of Narcissus;
- (vi) to promote, or advance the production of new and improved cultivars of Narcissus by hybridisation, and the increase of stocks of the best types of existing cultivars;
- (vii) to publish, or assist in the publication of scientific and practical information and to publish a journal in respect of the activities of the Society;
- (viii) to promote, or advance the holding of shows, lectures, meetings, and displays which include exhibits or material relating to the Narcissus and to which the public is admitted, and wherever held throughout the World;
- (ix) to promote, or sponsor the promotion of classes for Narcissus at any Horticultural Show including the provision of trophies, cups, or prizes for such classes;
- (x) to provide, or nominate suitable qualified persons to judge classes or exhibits of Narcissus at any Horticultural Show or at any Show or display having such a class or exhibit;
- (xi) to provide, or nominate suitable qualified persons to give lectures, or to provide exhibits relating to the Narcissus;
- (xii) to aid, and to receive aid from the Departments of Agriculture in Northern Ireland, and for England, Wales, and Scotland, or from any body or person whether incorporated or not and whether carrying on activities in Northern Ireland or elsewhere, which has objects which include the purpose of the Society and which aid will advance the purpose of the Society;
- (xiii) to grant financial aid to meet in whole or in part the travel costs of a person provided or nominated by the Society to act as a judge at a Show within para (x) above, or to give a lecture or provide an exhibit within para (xi) above, or to provide a trophy, cup or prize for a Show within para (ix) above, whether or not such person is a member of the Society;
- (xiv) to accept subscriptions and gifts (whether of real, chattel real or personal assets), devises and bequests;
- (xv) to borrow or raise, or secure the payment of money by mortgage or otherwise;
- (xvi) generally to manage, invest, and expend all the property and monies of the Society;
- (xvii) to affiliate, or associate with any body or person whether incorporated or not, and whether carrying on activities in Northern Ireland or elsewhere;
- (xviii) to do all such other acts which lawfully are incidental to the purpose of the Society.

4. Membership and Subscription

Membership of the Society shall be open to anyone on the payment of a minimum subscription, for the time being, of £5 per annum or £12.50 for 3 years due on the 1st January. Any member being twelve months in arrears shall be deemed to have resigned.

Honorary Members, who shall be elected on the recommendation of the Committee at a general meeting of the Society shall not be eligible to vote and shall not be liable to pay the subscription.

5. Committee

The management of the Society shall be vested in the committee of a Chairman, Vice-Chairman, an Honorary Secretary, an Honorary Treasurer and four additional members, and the committee shall have power to co-opt, and power also to invite a non-member to attend its proceedings.

A quorum for committee meetings shall be four, with the Chairman having a casting vote.

A record of proceedings shall be kept.

The officers and committee shall be elected annually at the annual general meeting, and may be removed from office only by a general meeting.

No member may serve for more than 4 consecutive years on the Committee.

6. Sub-Committees

The committee shall have power to appoint a sub-committee for any special purpose. A sub-committee shall make a record of its proceedings. The Chairman of each sub-committee shall be an ex-officio member of the committee.

7. Annual General Meeting and Other General Meetings

The annual general meeting shall be held in January each year, and other general meetings may be held at any time directed by the committee. Ten or more members may convene a general meeting if the committee refuses their written request for a general meeting. At least 7 days notice in writing shall be given of any general meeting and shall state the agenda.

A quorum for General Meetings shall be fifteen, with the Chairman having a casting vote.

Any member desiring to propose a resolution shall send the proposed resolution in writing to the Honorary Secretary, to arrive not less than 48 hours before the meeting.

8. Amendment of Rules

Rules may only be amended at a general meeting of which due notice had been given.

9. Voting at General Meetings

Every fully paid up member shall be entitled to vote at a general meeting and the Chairman shall have a casting vote.

A record of the business conducted shall be kept.

10. Accounts

A Bank Account shall be maintained in the name of the Society and cheques shall be signed by the Treasurer and the Chairman or Secretary.

An audited statement of the accounts of the Society shall be submitted by the Treasurer to the annual general meeting.

An auditor, whether honorary or paid, shall be elected at each annual general meeting.

11. Disputes

Any dispute between a member and the committee shall be determined by a sub-committee appointed under Rule 6 and the Chairman or Vice-Chairman of the Society, the Honorary Secretary and Honorary Treasurer for the time being, shall be members of such sub-committee.

12. Dissolution

On dissolution of the Society the assets shall not be divisible between the members but shall be given to a body, whether incorporated or not which has purposes which are charitable in a manner as nearly as may be resembling the purpose of the Society and which is selected by the Society at its terminal general meeting.



Kate Reade proudly displays the Peter Barr Cup at Carncairn.

CHAIRMAN'S REMARKS

H. S. CROSBIE COCHRANE

Any organisation is only as good and efficient as its office bearers and in the case of the N.I.D.G. this is particularly relevant especially with our honorary secretary — Sandy McCabe. It barely seems six months ago since I had a diplomatic note from him reminding me that I was supposed to put together a few words for the October issue of the Newsletter.

We, here in Northern Ireland, have had a marvellous growing season with plenty of sunshine and just sufficient rainfall to keep growth moving steadily. Unlike our unfortunate sun-tanned neighbours in the South East of England where the ground is so hard and dry that growth has practically come to a standstill, we have had moderate rainfall, moderate sunshine, moderate temperatures resulting in moderate growth. It seems to me that the only thing which is not moderate in the Province is our politics!!!

This year particularly those ideal conditions favoured our main exhibitors at the London Daffodil Show where the mainland exhibitors were left to scrap over the crumbs in the prize list. I certainly can never remember such a bonanza season for our Ulster exhibitors. Mrs. Kate Reade was awarded the Peter Barr Cup, Brian Duncan picked up the Engleheart Cup once again, Sandy McCabe received the Richardson Trophy and John O'Reilly won The Blanchard Prize — not bad for one season. Yet it is not so long ago when I seem to remember these same exhibitors taking over equally good blooms to London only to find them literally wilting before their very eyes as they were being staged. We must have been due our bit of good luck this year!!

I understand that our own local shows were equally successful this season — they are reported on elsewhere in this publication — but unfortunately I did not have the opportunity of visiting any of them as the show dates coincided with our Ruby Wedding anniversary which Freda and I celebrated by visiting our daughters and their families in England. The N.I.D.G. presented the "Silver Thread Trophy" to the Enniskillen Horticultural Society in recognition of their 25th anniversary. This award is a "one off" to any society and this year was won by Richard McCaw. Hopefully in the years ahead similar awards will be made to other societies to encourage an interest in Daffodils.

Once again the Spring Flower Festival was held at the Maysfield Leisure Centre in Belfast and although the standard of exhibits was probably higher than ever, unfortunately the entries in the Amateur and Novice Sections showed a marked decline. Unfortunate too that on the Saturday afternoon there was a bomb scare within the building which turned out to be a hoax. Nevertheless a lot of extra worry was placed on everyone concerned — a sign of the times in which we live!! Next year I understand the Flower Festival will be held at Woodlawn Garden Centre on the Saintfield Road, Belfast.

The 'out of town' venue should prove to be an interesting location.

Over the last few years the Guy L. Wilson Memorial Garden at the University of Ulster Campus, Coleraine has tended to be forgotten about. This may be because it became absorbed in the narcissi collection and also with the passage of time the different varieties tended to grow into each other and be obscured by the surrounding shrubs. It may have been too that Coleraine was not exactly in the heart of the daffodil growing fraternity. I was therefore delighted to learn from Robin Reade that the Ballymena District Council have agreed to allocate a parcel of ground opposite the entrance to Guy Wilson's old home at the Knockan, Broughshane for the planting up of varieties associated with that great man. These varieties will be naturalised in grass and during the flowering season will be labelled for the benefit of the passing public.

After the summer sojourn enthusiasts will now be busy with planting and potting operation in preparation for next spring's shows while amateurs will be trying to emulate Wordsworth's "host of golden daffodils fluttering and dancing in the breeze". I wish you all well in your different spheres of activity.

Now that the City of Belfast Autumn Horticultural Fair is over for another year I would like to thank our secretary for making the necessary arrangements to have a stand to publicise the N.I.D.G. at the Fair. I would also like to thank those growers who so generously donated bulbs for sale at the event and especially the Primacy Nurseries, Bangor who once again provided a selection of bulbs on a sale and return basis. Through these generous gestures the funds of the Daffodil Group have been augmented by the sum of approx. £150. To Sandy McCabe, John O'Reilly, Maurice Kerr and Derek Turbitt who so generously gave of their time a sincere "Thank you". Perhaps next time we shall have greater support from more of our members!

REMEMBER THAT THE
EDITOR
WANTS
ARTICLES FOR OUR
READERS
DELIGHT AND ENJOYMENT

LONDON SHOW REPORT

S. McCABE

In 1974 when I first attended the R.H.S. Show at Vincent Square, I gained the impression that without the input of flowers from Northern Ireland, the show would not have been as impressive as it was. That impression has been confirmed over the intervening period and in 1990 I can safely say that without that input the show would have been a disaster.

For the first time since 1974, the conditions were in our favour. The early season and the late date meant that our mainland friends and rivals were practically out of flowers. In other years our flowers were not in bloom except those that had been forced out with a consequent lack of substance. For once we had almost a full range of blooms to choose from which meant that despite the distance we have to travel, the difficulties inherent in transporting blooms by car, boat and rail and the fact that we have to cut so far in advance of judging, our exhibitors had an extremely successful show.

Before we had time to check the results the celebrations had begun. It was learned that Kate Reade had been awarded the Peter Barr Cup which pleased the Northern Ireland contingent immensely. This is a richly deserved honour for Kate and just reward for all her work with daffodils. It is also the third time that this prestigious trophy has been sent to the province in the last 10 years. Well done, Kate, but when are you going to fill it?

In addition both Carncairn Daffodils and Brian Duncan Daffodils were awarded Gold Medals for their Trade Displays. I am not aware of what criteria is used in deciding what qualifies for a Gold Medal in Trade Displays but it must be more than quality of bloom and standard of staging. Tyrone Daffodils scored highly on both counts and I felt that they should also have qualified to make it a hat-trick but the judges awarded only a Silver Gilt Medal.

In Carncairn's Group I was impressed by 'Apricot Sundae', 'Timolin', 'Doctor Hugh' and 'Merlin' whilst Seedling 975 (2W-GP), 'Garden News', 'Dorchester', 'State Express' and 1040 (2Y-YR) caught my eye on the Duncan Stand. The centrepiece on Tyrone's Stand was an impeccable arrangement of 'Shining Light' and they also displayed 'Gay Song', 'Misty Glen' and B.415 (1W-W) to perfection.

Best Bloom in the Show went to the Duncan raised 'Fragrant Rose' shown by our good friend Eddie Jarman whilst Brian's 'State Express' was runner-up. Brian regained the Engleheart Cup with an extremely colourful entry which included 'Dorchester', 'Goldfinger', 'Patabundy', 'Garden News' (Seedling 891) and 'State Express'. He also was awarded the Guy Wilson trophy for 6 white cultivars which were 'White Star', 'Moon Valley', 'Chinchilla', 'Regal Bliss', 'Val d'Incles' and 'Mount Fuji'.

I was fortunate enough to win the Richardson Trophy as my one and only trumpet, 'Goldfinger', was on its last legs and just survived

the judging period. 'Vernal Prince', 'Cupid's Eye', 'Mentor' and 'Garden News' were all in fine form.

John O'Reilly had a 'Field' day in the Novice Section and won the Blanchard Prize in a canter. He had best bloom in the section with 'Mentor' and I was pleased that his entry of 12 blooms was not entered for the Richardson. Incidentally contrary to one report of this show which I have read, John does NOT grow his flowers in the lush countryside of Omagh but in the more inhospitable terrain of Glengormley which is just outside Belfast and it was NOT his first visit to London. He has been there before but still qualified for the Novice Section.

So what of next year? The date is early for us and it means that we will probably have to rely once again on pot grown flowers which will have to be forced. There are some people in our province who feel that the powers that be at Westminster (no — not the R.H.S. — that other lot under Big Ben) would love to be rid of that troublesome part of the U.K. which lies off the North West corner of the mainland. It has been argued that all kinds of difficulties are placed in the way of businesses here. Be that as it may the members of the N.I.D.G. who attend London are satisfied that the impending closure of the London-Stranraer Rail Link and the Belfast-Liverpool Ferry were not brought about by a fierce lobby of daffodil growers on the mainland!!!

How we shall get to Vincent Square in 1991 is still a mystery but get there we shall and we will be doing our utmost to bring back the silverware won this year.

"DAFFODIL EXHIBITORS PRAYER"

Grant Oh Lord; in thy wisdom and understanding, that in some way from St. Patrick's Day until mid-May it may rain a little every day, say from about midnight until two o'clock in the morning, but please let it be a gentle and warm rain, and grant that the sun may shine for long periods every day, but not everywhere (not for instance in its intensity on the coloured cup varieties). Grant too that there may be plenty of dew and that any wind that blows may be no more than a gentle zephyr. Banish all the bulb flies on the wing and exterminate the greenflies and all virus and fungi spores that may lurk in the air. Grant also that about every ten days clear liquid manure, with a high potash content, may gently fall from heaven, and please let the flowers open unblemished and free from nicks, un nibbled by slugs and free from stains. All this we ask on behalf of the Daffodil Group and grant thy forgiveness to those sinners amongst us who try to confuse the judges and who in their vain glory seek to improve on thy handiwork by the use of scissors, brushes and even the white of egg. Amen.

Composed by our late chairman, W. J. Toal in 1978.

ENGLEHEART CUP 1985 and 1986
A.D.S. HYBRIDISERS CHALLENGE TROPHY 1988

Brian Duncan

NOVELTY AND EXHIBITION DAFFODILS

Brian and Betty Duncan wish to thank the many friends and customers for the support in 1989 which helped make their first season such a success.

The even more colourful 1990 catalogue (available early March) contains a range of exciting new introductions, a wide selection of show bench winners, resulting from over 25 years of hybridising plus some of the very best cultivars from raisers around the world.

Do not be surprised if you find a few specially selected Tulips tucked in at the back of the catalogue — just for variety and your added enjoyment.

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MICROPROPAGATION OF NARCISSUS

by YONG NENG CHOW BAg., MSc.

Department of Agricultural Botany, Queen's University of Belfast.

Introduction

Micropropagation offers an enormous rate of multiplication for many agricultural and horticultural plants. However, the multiplication rates reported for *Narcissus* were not as high as those attained by other bulbous species or by other horticultural subjects at present commercially micropropagated. Thus further research was needed to increase the multiplication rate of *Narcissus*.

James McChesney of University of Kansas, USA was the first person to report success in initiating cultures of *Narcissus*. However, more extensive studies were performed by other workers for example, Graham Hussey (John Innes Institute), Janet Seabrook *et al.* (University of New Brunswick, Canada) and D. Cohen and H. Whitehead (DSIR, Palmerston North, New Zealand). Research on the micropropagation of *Narcissus* was carried out in the UK mainly by Wendy Squires and Alan Langton of the Glasshouse Crop Research Institute at Littlehampton and by us at the Department of Agricultural Botany, Queen's University of Belfast/Department of Agricultural Botany for Northern Ireland. In Holland at the Bulb Research Centre, Lisse, Piet van der Linde is carrying out research in this and other fields.

Methods and Results

Micropropagation of *Narcissus* involves initiation of sterile shoot cultures from resting bulbs and then rapidly growing them in culture to obtain "multiplication". I have used a technique adapted from those used by Graham Hussey and Piet van der Linde: before the initiation, the bulb to be cultured is stored at 30°C for four weeks. It is then stripped of outer leaf bases and scales until only the central bulb unit remains. This involves removing most of the leaf bases and scales, leaving only ¼ of the original bulb (in the form of the central bulb unit containing the current season's floral bud). The next step is the sterilization of the bulb unit which is quite like sterilization for chipping. The bulb unit is cut into two longitudinally and placed in 10% Domestos for 30 minutes, followed by thorough rinsing in sterile distilled water. From then on, all the procedures have to be carried out aseptically in a laminar flow bench which helps to keep the bulb unit free from airborne bacterial and fungal contamination. The two half bulb units are further divided longitudinally into a total of 16 bulb segments, with each segment containing part of the basal plate and leaf scales/bases. The bulb segments are grown on a nutrient medium composed of minerals, sugar and plant hormones, solidified with agar. The cultures are incubated in a growth room with a carefully controlled light and temperature regime (20°C, 16 hr photoperiod). Shoots grow out from between the scales/leaf bases of the bulb segments within five to ten weeks.

We have carried out a number of experiments aiming to find out the best method of initiating cultures for the multiplication of *Narcissus* by micropropagation.

Firstly, we looked at the effects of the differences in the culture initiation procedures of the technique used by Wendy Squires and Alan Langton at the GCRI (from hereon referred to as the GCRI method) and that used by Piet van der Linde in Lisse (from hereon referred to as the LISSE method). The two techniques differed basically in three aspects: the storage of bulbs prior to culture initiation, the sterilization of bulb, and the culture technique. The GCRI method uses 17°C bulb storage temperature followed by sterilization directly in bleach before placing the bulb segments singly in culture tubes with their bases immersed in the nutrient medium. The LISSE method requires a 30°C bulb storage temperature and a hot water treatment at 54°C for one hour before sterilization in bleach, followed by inverted placement of the bulb segments in nutrient medium. The GCRI method requires a temperature of 20°C and incubation in the light while the LISSE method necessitates a range of temperatures from 15-25°C and incubation in diffused light.

We found that the GCRI method resulted in the bulb segments predominantly producing shoots whereas the LISSE method resulted in more bulbils (smaller than bulbils obtained by chipping) being produced by the bulb segments but with substantially higher efficiency of sterilization. After the initial 10-15 weeks, the production of shoots from cultures of the two methods differed only marginally, but as more cultures survived in the LISSE method, it was the better method for culture initiation.

In the second experiments we employed the GCRI method to initiate cultures from 15 varieties of *Narcissus*, five each from the divisions II, V and VII. The varieties were: 'Carlton', 'Fortune', 'Ice Follies', 'St. Keverne', 'Yellow Sun', *triandrus albus*, 'Hawera', 'Liberty Bell', 'Thalia', 'Tresemble', 'Baby Moon', 'Linte' *jonquilla*, *ordourus rus. plenus* and 'Suzy'. The choice of the GCRI method was due to the fact that most of the bulbs from Holland arrived late and many had sprouted. This precluded the use of hot water treatment required in the LISSE method. In spite of this, we managed to obtain sterile cultures of all the 15 varieties. The rates of multiplication of the varieties were calculated 15 weeks after initiation as the number of shoots per culture, at the end of the culture passage, divided by the number of shoots per culture at the start of the culture passage. For every shoot transferred, on average we obtained around 1.8 new shoots after five weeks incubation (one "passage"). There were tremendous differences in the rate of multiplication between varieties and within the same variety during different culture passages. Variable multiplication rates both between varieties and from passage to passage could present problems if micropropagation is to be used as an alternative to chipping/twin scaling to rapidly multiply new varieties.

A series of experiments aimed at increasing and stabilizing the multiplication rates of the cultures were carried out. A detailed account of these experiments is beyond the scope of this article, instead, a brief summary of the findings is presented.

Substitution of thidiazuron, a potentially more active plant growth regulating hormone, for the routinely used benzylaminopurine, failed to increase the multiplication rates. Thidiazuron also severely inhibited rooting of the plantlets to the extent that their survival after transfer to compost mixture was reduced. We have also evaluated the effects of growth retardants such as 'Bonzi' and 'Alar' but the results were not encouraging.

A simple experiment examining the extent of shoot trimming at sub-culture, where cultures were either pruned 'severely' to the base plate or pruned 'normally', where only the top $\frac{1}{3}$ or $\frac{2}{3}$ of larger shoots were cut away, indicated an important factor controlling shoot multiplication rates. By severely pruning the shoots we were able to boost multiplication rates to around 2 to 3. By pruning the shoots every other passage increased multiplication rates can be maintained for long periods.

In 1982 Graham Hussey reported success in culturing single leaf bases of *Narcissus*, but no further work was reported on the evaluation of this technique. We have set up experiments using single leaves (5 cm. long, 0.3-1 cm. wide, with 0.15 cm. of basal plate) cut in different ways and with a range of leaf orientations in the culture medium. Single leaf culture seems to be the key to the successful use of plant tissue culture methods to micropropagate *Narcissus*. By culturing just the leaf base of a single leaf in liquid medium (normally we use medium solidified with agar), we obtained over two usable shoots per culture passage. We were able to deduce an expression to calculate the numbers of plantlets obtainable from a standard 12-15 cm. circumference bulb. At least 3,000 to 4,000 plantlets are obtainable in one year using our method culture initiation in combination with single leaf culture. This final number could be increased to over 38,000 if the multiplication period is extended to 14-15 months. Mr. Brian Duncan was kind enough to join us in further evaluating our methods on new and untested varieties that he has skillfully bred. We are glad to announce success with 16 of the 19 off-sets that were sent to us. The cultures of these new varieties are being multiplied currently. By manipulating the culture medium composition we were able to induce bulbil formation in the cultures. We have induced bulbils on nearly all of Mr. Duncan's varieties and some were up to 2 cm. in diameter. Based on the initial success of experiments on planting out shoot cultures/plantlets, we envisage no problems in transferring Mr. Duncan's plantlets out of *in vitro* culture into conventional growing conditions.

Future work

The growth and development of *Narcissus* plants produced by micropropagation needs to be studied further. I will not be able to do this in the three years allowed for a doctoral degree, however,

based on early results of my experiments on transferring micro-propagated plantlets to soil and a review of the literature, the micro-propagated plants should come true-to-type and take three to four seasons to reach the flowering stage. The genetic purity of the micropropagated plantlets as compared to the original bulb can be checked using modern techniques of molecular biology. To the best of my knowledge, no protocol for such a technique applicable to *Narcissus* has been produced or published. If a fast and cheap protocol, like the one used for the varietal identification of cereals at the Plant Testing Station, Crossnacreevy, N.I. is available, we can then be confident of the genetic integrity of the micropropagated plantlets.

Summary

High rates of multiplication yielding at least 1,000 plantlets per year from a single *Narcissus* bulb are possible by micropropagation using single leaf cultures. The process of micropropagation which uses plant parts similar to those used in chipping and twin scaling should produce plants that are true-to-type.

Acknowledgement

I would like to express gratitude to my two supervisors, Dr. Barbara Harvey and Dr. Christopher Selby for their encouragement, perseverance and guidance all through the course of my research work. My thanks also to the board of trustees and selectors for awarding me the Sir William McGeough Bond/Harold Barber scholarships to undertake this work. To Mr. Brian Duncan for his co-operation and confidence in my work. Lastly but not least, my thanks to Mrs. Kate Donald (formerly of the Royal Horticultural Society) for her help and ideas for initiating my work and to Mrs. Wendy Squires and Dr. Piet van der Linde for sharing the fruits of their research with me.

NORTHERN IRELAND SHOW REPORT

SANDY McCABE

The anticipated early season resulted in our 'Early' Show being advanced to the 18th March. The intention of this show is to whet the appetite for the more serious affairs later in the season and to allow enthusiasts to display those varieties which are much too early for the recognised shows.

J. P. McAusland had never heard of this intention and arrived with a car load of pot grown blooms with which he monopolised all the classes. He had excellent varieties of 'Silent Valley', 'Rimmon', 'Unique', 'Lilac Charm' and 'Comal' which was adjudged best in the show. Carncairn dominated the miniature classes with 'Sundial' and 'Segovia' whilst Brian Duncan created much interest with 1406 (6Y-Y) — a seedling from 'Elfin Gold'.

Hillsborough Horticultural Society kicked off the season proper on 31st March. J. P. again used his pots to good advantage and was

the only entrant in the 12 Bloom Class for Amateurs. It contained fine examples of 'Burntollet', 'Torridon', 'Midas Touch' and 'Golden Vale' — Best Div. 1 in the show.

Carncairn led the way in the Open section and exhibited the Best Flower in Show with 'Golden Aura'. Their seedling 2/2/80 (2O-R) was best seedling and Ballydorn's 70/1WW/8 — a white trumpet — impressed with its terrific form and substance.

John O'Reilly had best Div. 4 with 'Crackington' and Willie Davison scored with 'Montego' (Best Div. 3). The Intermediate 9-Bloom Class suffered as both entrants had not included 3 divisions and were both marked N.A.S. (more education is needed!). The choice flowers in this section were 'Broomhill' shown by Richard McCaw and 'Avenger' and 'Rainbow' exhibited by Mrs. Innes.

Miss Townsley cleaned up in the Novice Section with a 6-Bloom exhibit which our reporter described as being the best novice group he had seen in years. 'Bobster', 'Purbeck', 'Golden Aura' and 'Unique' were outstanding and would have been quite at home in the Senior Section. The classes reserved for schools contained a flower of 'Sweetness' which not only won its class but was also best Div. 5-9 in the Show for schoolboy D. Middleton. The future of our favourite flower is secure in Hillsborough judging by the standard in the school classes.

Bangor Show on 7th April had no classes in which the Commercial growers could compete so the amateurs were on their own. John O'Reilly won the 12-Bloom class from Sandy McCabe and Willie Davison. The winning entry contained noteworthy examples of 'Première', 'Moon Valley', 'Crackington' and 'Goldfinger'. This last named flower was just pipped by McCabe's 'Comal' for the accolade of Best Bloom. Best in the second placed 12 were 'Silver Surf', 'Chief Inspector' and 'Amber Castle' while the pick of Willie Davison's 12 was 'Canisp'. John O'Reilly won most of the other classes with McCabe, Davison and Gilbert Andrews picking up a few red tickets. Flowers noted were 'Première', 'Regal Bliss', 'Crackington', 'Golden Joy', 'Newcastle', 'Lilac Charm', 'Silent Valley' and 'Montego'.

The Intermediate section provided a keen contest between Richard McCaw and Janice Webber. Richard won the 9-Bloom class and showed 'Achduart' and 'Cyros' to advantage. Janice picked up the award for most points and had fine examples of 'Amber Castle', 'Rainbow' and 'Fair Prospect'. The other classes were disappointing with best bloom in the Novice section going to 'Tristram' shown by M. McGrattan.

Coleraine and Ballymena shows again clashed on 14th April. No report has been received from Coleraine but the best in show award went to 'Merlin' shown by D. Turbitt.

Our reporter's notes on the Ballymena Show were mislaid but from a not too reliable memory your scribe can recall some details. The 6 x 3 Collection Class was won by Carncairn from Brian Duncan and me. I do not recall my own vases in this class so my apologies to the other two entrants for not mentioning their choicest blooms.

The 12-Bloom class attracted 6 entries and this must have been the first time there was such a large entry in this most competitive of classes. Brian Duncan won from Michael Ward, McCabe, Carncairn, Maurice Kerr and O'Reilly. I can recall 'June Lake' and 'Dorchester' in the winning 12 while my own set contained 'Goldfinger' and 'Creagh Dubh' which was not typical of that variety. It did not have the 'rib' on each petal and was very round and smooth. A suggestion was made that it could have been a 'Sport' so I'll be keeping a careful eye on that particular pot when re-planted in the Autumn. Best Bloom in the Show came from the Novice section and was a magnificent 'Rainbow' shown by F. Herbison. 'White Star' was Reserve Best Bloom. Kerr's 'Ardress' also impressed.

Enniskillen Show on 21st April suffered from the fact that many of our more senior exhibitors could not attend due to having to travel to London on that date for the R.H.S. Show. Richard McCaw won the new Silver Thread Award with Albert Allen (Omagh) coming out tops in the Senior Section. Best Bloom in Show went to 'Webster' shown by John Ennis with Albert Allen's 'Cool Crystal' being runner-up. Flowers of note were Allen's 'Star War', 'Broomhill', 'Irish Light', 'Dailmanach' and 'Kimmeridge'. Sam Dukelow took second place in the Collection Class and included 9 of his own seedlings. George Jordan won the Novice Section and in addition to 'Broomhill' had good flowers of 'Amber Castle' and 'Hawaii'.

Returning from London on Thursday, 26th April meant a mad rush to inspect blooms for Belfast. This was the second Show organised in conjunction with the Belfast City Parks Department and once again was an outstanding success. Many excellent flowers survived the indignity of refrigeration, cool storage and goodness knows what else. In the event it was a much better show than London though we appreciate the difficulties experienced this year by our mainland friends and rivals.

Two unfortunate events marred the day. Our principal judge, Dick Smales, was grounded in England due to a mechanical fault on his scheduled flight. We had capable deputies in Mike Brooks, Richard Ezell and Ted Snazelle but we have requested Dick to return in 1991 (by boat) or else to come a few days earlier.

Secondly the hall had to be evacuated while our Security Forces dealt with a suspect bomb at a nearby railway station. Fortunately this proved to be an elaborate hoax but as it occurred while the general public were streaming into the hall shortly after the opening, it prevented many interested spectators from seeing the display.

The Championship of Ireland attracted 3 entries with Brian Duncan regaining the crown he had lost last year. His winning 12 included 'Dorchester' (Best Div. 4), 'Garden News', 'State Express', 893 (4W-Y) which was very full and round and 1435 (1Y-Y) which, I believe, is a child of 'Goldfinger'.

In my second placed entry I showed one of my own seedlings S.3 (2Y-R) bred from 'Shining Light' x 'Bunclody' which is slightly small but has the benefit of being able to stand quite a lot of sunshine



Judging the Championship of Ireland at Belfast.

without burning. It won for me the Northern Bank Trophy for best seedling by an amateur. Pick of the remainder were 'Mentor', 'Pink Pageant' and 'Garden News'. Carncairn were placed third and included 'Loughanmore' (Best Div. 1) — a brightly coloured 'Fuego' and 'Irish Linen'.

The Royal Mail Trophy for 6 x 3 varieties was also won by Duncan showing good vases of 'Patabundy', 'Red Spartan', 'Garden News' and 'Waldorf Astoria'. Tyrone Daffodils (alias Clarke Campbell) entered the fray and were awarded second place. Pick of this entry was 'Lysander', 'Mellon Park' and 'Silent Cheer'. Carncairn showed 3 seedlings and 'Quiet Day', 'Gold Strike' and 'Merlins Castle'.

Tyrone Daffodils broke Kate Reade's near monopoly of the American Class by including fine examples of 'Silken Sails', 'Cool Crystal' and 'Milestone'.

The newly awarded Guy Wilson Trophy presented by Mr. Dick de Jager also went to Tyrone Daffodils for 'Cool Crystal', 'Misty Glen' and 'Inverpolly'. Carncairn were second and included 'Irish Linen' and 'Columbus' while Brian Duncan's third placed entry showed 'Valediction' in fine form.

Entries in the Open Single Bloom varied from 4 in the 1Y-Y class to 25 in the Div. 3W class. 'Goldfinger' won the first class for Duncan. This seems to be the 'in' flower for now and the one they'll all have to beat in future. The Herculean class faced by the judges in the 3W class resulted in a win for Ballydorn's 'Late Call'. They also had 'Witch Doctor' in second place and Tyrone Daffodils were third with 'Cool Crystal'. I was surprised that Ballydorn's 'Fourways' had not figured in the awards.

Elsewhere Seedling 1324 won the 2Y-R class for Duncan and this bloom was also adjudged Best Div. 2 and Best Unregistered Seedling. 'Algarve' and 'White Star' won for Tyrone and a splendid example of 'Noontide' won the 3Y class for Ballydorn. 'Sherbourne' and 'Delnasheugh' won the 4Y and 4W classes for Brian Duncan and Michael Ward respectively while Ballydorn picked up the W. J. Toal Award for Best Div. 5-9 with Seedling 90/9W-GYO/R.

The Amateur Championship had 4 entries with Maurice Kerr again making two entries. Unlike last year when he fell between two stools he gained 1st and 2nd places. O'Reilly was 3rd and Frank Herbison was 4th. Cream of the entries were 'Doctor Hugh', 'Patabundy', 'Misty Glen', 'State Express' and 'Mentor'. The collection classes saw a keen contest between Kerr and O'Reilly with Sam Dukelow, Albert Allen and me taking the odd award to prevent a clean sweep by the first two named. They finished up level on points but Kerr won the Bloomer Award by having gained more first prizes. Maurice also retained the Duncan Award in the single bloom classes. Flowers of note in the senior section were 'Quiet Day', 'Apricot Sundae', 'Moralee' and 'Eland'. The seedling class was won by Sam Dukelow with 0-32A (3W-GYO).

Richard McCaw and George Jordan fought out the Novice Section

with the former winning the 9-Bloom class and George taking most points in the Collection and Single Bloom Classes.

Carncairn staged an excellent small trade stand which attracted much interest while the N.I.D.G. gained much needed income through selling surplus flowers (and some which turned out to be not so surplus). Altogether this was a truly great show and I am now confident that it will be a permanent feature in the Show season. For your diaries the show in 1991 is scheduled for 13th and 14th April so mainland exhibitors make your preparations now. We would love to have you over competing.

The final regular show was at Omagh on 5th May and you may well wonder how any flowers were still alive at that late date. Despite groans and moans of 'that's dead' or 'that's for the bin', etc. the show was well supported and the benches were reasonably well filled. Brian Duncan secured the 12-Bloom Award which, apart from 'Doctor Hugh', were all pink flowers. He included 'Fragrant Rose' which was well nigh perfect, 'Pink Pageant' and 1186. Carncairn in second place showed to good advantage 'Quiet Day', 'Irish Linen' and 1/60/79 (3W-Y) which, I understand, came from 'Merlin' x 'Rockall'.

Carncairn regained the American Class loaned to Tyrone the week before and included good blooms of 'Impala' and 'Chiloquin'. Tyrone were placed second with good examples of 'Aircastle' and 'Silken Sails'.

Best Bloom awards went to 1186 (Best in Show) 'Gay Kybo' (Best Div. 4) for Duncan, 'Bright Spark' (Div. 3) for Tyrone and 90/'Moyle' x 'Cantabile'/3 (9W-GGY) for Ballydorn. Naturally 1186 was best Div. 2 and best seedling. Best Div. 1 went to 'Silent Valley' for George Jordan from the Intermediate section.

Many tired blooms were on display in the Amateur section with Kerr again lifting the silverware. Best Bloom in the Section was awarded to 'Mary Kate' shown by yours truly which pleased my better half as it was named for her. 'Raspberry Ring' shown by Albert Allen was runner-up.

Though Omagh was the last formal show we were not yet finished. Sunday, 13th May saw all roads leading to Carncairn for the 'late' show which coincided with an Open Day run for the National Trust. How Kate Reade managed to erect a 10' stand with so many differing varieties I'll never know. She also had a small exhibit showing the advances made in breeding Poeticus. As I have stated before results here are not important and judging is probably affected by the delicious lunch and copious glasses of wine provided by our gracious hosts. Our thanks to Kate and Robin for their hospitality, and the hundreds of people who were attracted to the function by the beautiful weather on the day must have gained some idea as to why we go 'bananas' over daffodils.

"PREPARING FOR A DAFFODIL SHOW"

CUTTING AND CONDITIONING

1. All blooms will be larger if left on the plant until fully open. However, red cups, poets and many Division 3's and pinks should be picked as soon as they open, or protected, to prevent sunburn. If you're unhappy with a short stem, it can be lengthened by cutting the top and bottom from a cardboard box and staking the sides to the ground around the clump. The stem will lengthen as the flower seeks the light. To retard growth of a stem, use cardboard box method and shade the top, cutting down on the light.
2. Cut in mid-afternoon when the sugar content is highest; high sugar content helps to preserve blooms when cut.
3. Have handy a bucket with water, sharp knife and a pen that will write on stems. A felt tip pen with waterproof ink works well on dry stems.
4. Cut stems on a slant with sharp knife. Never pull the bloom and never cut down into the white part of the stem. Identify that bloom IMMEDIATELY by writing the name (and division and color coding, if available) on the back of the stem.
5. This is the time to groom your flowers. Remember condition counts 20%; you want a fresh, CLEAN flower. Rainspots, dirt, spilled pollen, etc. can be removed quite easily at this time.
 - a. Dirt and rainspots you remove with wet cotton, Q-tip (moistened with saliva), a soft brush or cotton dipped in milk or detergent and rinsed off. Don't forget to also clean the backside!
 - b. Remove pollen spilled in the cup with a small, dry brush or gently blow into the cup.
 - c. Ridges in a petal may be smoothed out by wrapping your finger with a cotton ball, placing it behind the petal and brushing gently with a camel's hair brush. Be careful, the petals are easily bruised.
 - d. NEVER, NEVER remove the sheath — even though torn.
 - e. To achieve axis balance, gently twist and release the head of a flower until the segment lines up.
 - f. Keep the flowers out of drafts and bright light. Light striking the flower at an angle can cause the neck to twist a bloom towards the source, ruining pose.
 - g. However, pose can be improved by placing a flower below a light source to raise it. Placing a flower above the light source should lower pose. The object is to have the flower look you straight in the eye (at an approximate 90° angle). There are flowers in Divisions 5-8 and some in Division 10 that are normally pendant to semi-pendant and should be left as is. The exception would be multi-flowered scapes that may need to have cotton balls placed between crowded blooms to ensure proper spacing when the cotton is removed.
 - h. Recut stem if it splits and curls at the base.

6. Place the clean blooms in tepid water (about 80°) not more than two to three inches deep and leave them until the water cools. Then place the blooms in cold water for 12-24 hours and then refrigerate. NOTE: Don't overcrowd the flowers and keep them out of drafts and bright light.
7. Daffodils can be kept in the refrigerator for up to ten days. After cleaning, make sure they're fully dry before placing them in the refrigerator (the non-self-defrosting type is best), keeping temperature around 40-45°. Humidity needs to be kept high to keep substance from drying out. This can be accomplished with: a) a wet towel spread out on the bottom and kept wet, b) filling the drainage hole in bottom of refrigerator with floral clay and placing water in bottom, or c) spraying lightly with an atomizer from time to time during refrigeration.
8. THOSE DAFFODILS WITH MANY FAULTS, FORGET AND LEAVE AT HOME!

STAGING

1. Make out entry tags days before the show with your name and address. A rubber name and address stamp is quick and easy; gummed name and address labels are also quick and easy.
2. If possible, secure containers ahead of time and stage blooms at home. This saves much time on the day of the show, since the exhibits can often be set on the show table with few adjustments.
3. Generally, blooms should look you straight in the face, unless of a type that is naturally drooping in nature.
4. Good staging can improve some of the qualities lacking in a specimen, qualities such as pose and short stem. For the latter, stage the flower as high in the container as you can, but make sure the stem is in water.
5. THREE STEMS
UNIFORMITY of all elements (size, color, etc.) is important; up to five points may be deducted for lack of uniformity. Stage the blooms in an equilateral triangle; blooms should not touch.
6. COLLECTIONS
 - a. Place largest blooms at top rear; shortest stemmed in bottom row.
 - b. For balance, alternate yellow and white perianths and red or pink cups with white or yellow ones, if possible. Early in the season there are more yellow perianths, later in the season white perianths predominate. DO NOT SACRIFICE QUALITY just to obtain contrast of colours!
 - c. More divisions represented is a plus. In each row, specimens should be the same height, especially the top row. Overall view should be pleasing.
 - d. Place a completed entry tag on each collection. On each stem within the collection, place small labels with name of daffodil, division and color code. The American-Bred class (the Red-White-Blue Ribbon) also requires the name of the hybridizer on the label. Make sure both top and bottom portions of entry

- tag are properly filled out. The bottom portion is used to compile the show record and must be completed.
7. TAKE TO THE SHOW A KIT, INCLUDING:
 - a. Show schedule
 - b. RHS Classification ("Daffodils to Show and Grow")
 - c. Extra entry tags containing your name and address
 - d. Q-tips
 - e. Knife and/or clippers
 - f. Camel hair brush
 - g. Card pins, cards and scissors
 - h. Pen
 8. TAKE EXTRA BLOOMS IN CASE OF DAMAGE OR LOSS OF SUBSTANCE

**Adapted from the handouts, written by Tag Bourne and Naomi Liggett, used in workshops on selection and preparation of flowers for a daffodil show. Reproduced from 1982 Yearbook of the Daffodil Society of Minnesota and whilst it relates to the regulations governing shows under the auspices of the A.D.S., our exhibitors would do well to follow the tips and advice given as far as possible.*



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BREEZAND BULB SHOW

1st-4th MARCH, 1990

H. S. CROSSIE COCHRANE

It's wonderful who you meet in a petrol filling station! Early in the New Year I was topping up with environmentally acceptable lead free fuel when Richard McCaw drove in to a nearby pump to do likewise. And that's how our brief trip to the Dutch Breezand Show originated. I had been extolling the virtues of the show from a previous visit while Richard expressed a desire to do so. The seeds were sown — or more appropriately the bulbs were planted — right there and then for our forthcoming visit. Hasty arrangements were made mainly with the experienced assistance of Brian and Betty Duncan on this side and Jan Pennings at our destination to enable us to depart on 1st March for a brief visit.

A party of 14 natives was joined by 4 English enthusiasts headed by Mrs. Abel Smith at our hotel in Amsterdam upon our arrival. Our itinerary had already been drafted out beforehand and since we had an early start the next morning everyone retired in good time — even Desmond Campbell!

The Aalsmeer Flower Auction is a compelling sight and it doesn't matter how often one visits it, it is always full of interest and activity. Not much wonder since the whole complex covers an area of 600,00 in² — equivalent to the area of 90 football pitches! This makes the auction building not only the largest flower auction but also the largest commercial building in the World.

The "VERENIGDE BLOEMENVEILINGEN AALSMEER" (VBA) is a growers co-operative with over 4,700 members. As co-operative growers/members they have to sell their products via their auction 'organisation'. A percentage of the price the growers get for their flowers and plants is paid for the sale of these products. The auction commission is about 5% and is used to finance the running of the building and staff costs.

Produce arrives during the night and early morning and after labelling, is placed in empty trailers. Experienced inspection staff examine each consignment and remarks are recorded on the attached document before it is numbered ready for wheeling into the appropriate auction room. There are 5 such rooms with a total of 13 clocks. Each clock is used for the daily auctioning of the same sort of products so that the buyers know where to go. Auctioning takes place 5 days a week from 6.30 hours.

Each auction room can seat over 300 buyers made up of exporters, wholesalers, retailers and street vendors who are all well versed in the 'Dutch Auction' system whereby the pointer of the clock turns backwards from 100 to 1. To the viewers looking in on the auction the whole operation is quite mystifying but obviously the whole system works very smoothly. Since Dutch flowers and plants are much in demand all over the world it is hardly surprising that 80%

of all produce sold in Aalsmeer is exported. A few more statistics of interest to digest:

About 13 million flowers and 1 million pot plants are sold each day equivalent to 3 billion flowers and 320 million pot plants each year
Over 1,400 people work for VBA

50,000 transactions are processed by computer each day

An average 2,000 lorries leave the VBA buildings daily

The Netherlands exports flowers and plants to the value of £4.1 billion guilders per annum (3.3 guilders = £1).

At the time of our visit roses, tulips, carnations, freesias, gerberas, chrysanthemums, forsythia and lilac were most conspicuous and all in beautiful condition.

A welcome break for a cup of coffee and a little souvenir hunting helped us all to unwind and to rewind our cameras for the next visit which was to the Dutch Government's Flowerbulb Inspection Service near Lisse. Prior to my retirement from the Department of Agriculture one of my duties was to supervise daffodil inspections and bulb examinations before export by the main N.I. bulb breeders and so I looked forward to this visit with particular interest. The Director of Bloembollenkuringsdienst, Ir H Van Os told us that he had 4 staff members, 4 chief inspectors, 50 inspectors and 50 deputy inspectors (part time). The activities of this organisation are based on:

(1) Bulb Disease Act 1939

(2) Quality Inspection Law 1951

Every professional grower in the Netherlands is subjected to inspection of his bulb crops and must by law be affiliated to the Flowerbulb Inspection Service. Government provides 45% of the necessary funds while the remainder is raised by the Growers. The total budget per year is about 7 million Dutch guilders so this means that the growers raise approximately 3,850,000 guilders each year!

Last season the crops inspected were:

Tulips	7300 ha	Hyacinths	1020 ha
Lilies	2500 ha	Dutch Iris	920 ha
Gladiolus	2200 ha	Crocus	520 ha
Daffodils	1800 ha	Dahlias	400 ha

Miscellaneous 190 ha

A grand total of 16,850 ha

All lots are inspected and classified separately.

The available classes are:

(a) Class I and Class II but only after sample inspection

(b) Class A and Class Standard.

During inspection the following terms of reference are considered:

(a) Virus Diseases

(b) Fungal Diseases

(c) Pests

(d) Bacterial Diseases (Hyacinths)

(e) Trueness to type

(f) Others

A tour of the laboratories only emphasised the thoroughness with which all the activities are undertaken. One can therefore assume that everything humanly possible is being done to maintain the high standards of bulbs which we associate with the Dutch.

After an excellent lunch in the Nightingale Restaurant — where we met Wym Lemmers — we then proceeded to the Hobaho bulb auction centre at the Haven in Lisse. Back in 1921 Messrs. Homan, Bader and Hogewoning decided to combine forces as auction directors. The result was an auction house in the heart of the flower-bulb district and they soon began to specialise in the sale of bulbs. So much so that in the 1930's they set up a "Purchase and Sales Office for Better Varieties". Although in early March there were very few bulbs in the warehouses there was still the odd crate of gladiolus and montbretia to indicate the scale of operation when in full swing in the busy season.

It was nice to relax in a canal bus once again and to wonder at the maze of canals winding and twisting in and around the streets of Dutch houses with their overhanging beams — a reminder of another age when merchandise was hauled by pulley from ground level to the upper floors. A glance of envy at the flower vendors street stalls only emphasised the tremendous array of material available and particularly the wonderful quality of all the lots for sale.

After all our activities a quiet meal in our hotel and a social drink was totally adequate for the more senior members of the party. The city lights and the cosmopolitan atmosphere proved too great an attraction for the younger members and who would blame them? After all it's even an experience to ride on the city trams!

An early start next morning first by train to the Central Station and then by train to Paulona Station brought us close by the Breezand Show. Jan Pennings and Wym Lemmers were at the station to greet us and see us all safely aboard the courtesy coaches to the Show.

Other contributors will elaborate on the show itself but suffice it for me to say that it was quite breathtaking and how different it was from the previous event which I had the pleasure of visiting two years ago. The pleasures of the show were once again enhanced by the kindness and hospitality of the Pennings family. Should they ever decide to give up bulb growing they could quite successfully enter the catering business!!

Nor was that the end of our hospitality. At the "Wapen von Holland" restaurant where we had our farewell dinner and where we were supposed to entertain our many hosts and hostesses, we found on arrival that they had arranged a "Happy Hour" for our benefit. So we left Holland and our many Dutch friends with lots of pleasant memories of yet another wonderful visit which we shall all recall with nostalgia in the days ahead.

It's wonderful what transpires when you stop off at a petrol filling station!

"THE INDISPENSABLE MAN"

Sometime when you're feeling
important,
Sometime when your ego's in
bloom;
Sometime when you take it for
granted,
You're the best qualified chap
in the room.

Sometime when you feel that
your going,
Would leave an unfillable hole;
Just follow this simple
instruction,
And see how it humbles your
soul.

Take a bucket and fill it with
water,
Put your hand in it up to the
wrist;
Pull it out and the hole that's
remaining,
Is the measure of how you'll be
missed.

You may splash all you please
when you enter,
You can stir up the water galore;
But stop and you'll find in a
minute,
That it looks quite the same as
before.

The moral in this quaint example,
Is to do the best that you can;
Be proud of yourself, but remember,
There is no indispensable man.

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The Northern Ireland Daffodil Group

MEMBERSHIP APPLICATION FORM

To: SANDY McCABE, 21 Parkmount Crescent, Ballymena, Co. Antrim, N. Ireland

Mr.
I/We Mrs.
Miss

(BLOCK LETTERS PLEASE)

Address

desire to become a member of the Northern Ireland Daffodil Group, and enclose the sum of

£5.00/£12.50 being my subscription for year/s

Date

The Northern Ireland Daffodil Group

Objects

The purpose for which the Society is established is the advancement of horticultural education through the study of the genus *Narcissus* and in furtherance of such purpose:

- (i) to promote public participation in the said educational purpose;
- (ii) to promote the establishment of public gardens or of display beds in such gardens which include plantings of *Narcissus* bulbs;
- (iii) to provide bulb stocks for plantings within para (ii) above;
- (iv) to promote, or advance scientific or practical research into the breeding, cultivation, and production of *Narcissus* cultivars;
- (v) to promote, or advance the study of *Narcissus* diseases and pests with particular reference to making Northern Ireland an international centre for the production of healthy stocks of *Narcissus*;
- (vi) to promote, or advance the production of new and improved cultivars of *Narcissus* by hybridisation, and the increase of stocks of the best types of existing cultivars;
- (vii) to publish, or assist in the publication of scientific and practical information and to publish a journal in respect of the activities of the Society;
- (viii) to promote, or advance the holding of shows, lectures, meetings, and displays which include exhibits of material relating to the *Narcissus* and to which the public is admitted, and wherever held throughout the World;
- (ix) to promote, or sponsor the promotion of classes for *Narcissus* at any Horticultural Show including the provision of trophies, cups, or prizes for such classes;
- (x) to provide, or nominate suitable qualified persons to judge classes or exhibits of *Narcissus* at any Horticultural Show or at any Show or display having such a class or exhibit;
- (xi) to provide, or nominate suitable qualified persons to give lectures, or to provide exhibits relating to the *Narcissus*;
- (xii) to aid, and to receive aid from the Departments of Agriculture in Northern Ireland, and for England, Wales, and Scotland, or from any body or person whether incorporated or not and whether carrying on activities in Northern Ireland or elsewhere, which has objects which include the purpose of the Society and which aid will advance the purpose of the Society;
- (xiii) to grant financial aid to meet in whole or in part the travel costs of a person provided or nominated by the Society to act as a judge at a Show within para (x) above, or to give a lecture or provide an exhibit within para (xi) above, or to provide a trophy, cup or prize at a Show within para (ix) above, whether or not such person is a member of the Society;
- (xiv) to accept subscriptions and gifts (whether of real, chattel real or personal assets), devise and bequests;
- (xv) to borrow, or raise, or secure the payment of money by mortgage or otherwise;
- (xvi) generally to manage, invest, and expend all the property and monies of the Society;
- (xvii) to affiliate or associate with any body or person whether incorporated or not, and whether carrying on activities in Northern Ireland or elsewhere;
- (xviii) to do all such other acts which lawfully are incidental to the purpose of the Society.

System of Classification — *continued from inside front cover*

DIVISION 1 — TRUMPET DAFFODILS OF GARDEN ORIGIN

One flower to a stem; corona ("trumpet") as long as, or longer than the perianth segments ("petals").

DIVISION 2 — LARGE-CUPPED DAFFODILS OR GARDEN ORIGIN

One flower to a stem; corona ("cup") more than one-third, but less than equal to the length of the perianth segments ("petals").

DIVISION 3 — SMALL-CUPPED DAFFODILS OF GARDEN ORIGIN

One flower to a stem; corona ("cup") not more than one-third the length of the perianth segments ("petals").

DIVISION 4 — DOUBLE DAFFODILS OF GARDEN ORIGIN

One or more flowers to a stem, with doubling of the perianth segments or the corona or both.

DIVISION 5 — TRIANDRUS DAFFODILS OF GARDEN ORIGIN

Characteristics of *N. triandrus* clearly evident: usually two or more pendent flowers to a stem; perianth segments reflexed.

DIVISION 6 — CYCLAMINEUS DAFFODILS OF GARDEN ORIGIN

Characteristics of *N. cyclamineus* clearly evident: usually one flower to a stem; perianth segments reflexed; flower at an acute angle to the stem, with a very short pedicel ("neck").

DIVISION 7 — JONQUILLA DAFFODILS OF GARDEN ORIGIN

Characteristics of the *N. jonquilla* group clearly evident: usually one to three flowers to a rounded stem; leaves narrow, dark green; perianth segments spreading not reflexed; flowers fragrant.

DIVISION 8 — TAZETTA DAFFODILS OF GARDEN ORIGIN

Characteristics of the *N. tazetta* group clearly evident: usually three to twenty flowers to a stout stem; leaves broad; perianth segments spreading not reflexed; flowers fragrant.

DIVISION 9 — POETICUS DAFFODILS OF GARDEN ORIGIN

Characteristics of the *N. poeticus* group without admixture of any other: usually one flower to a stem; perianth segments pure white; corona usually disc-shaped, with a green or yellow centre and a red rim; flowers fragrant.

DIVISION 10 — SPECIES, WILD VARIANTS AND WILD HYBRIDS

All species and wild or reputedly wild variants and hybrids, including those with double flowers.

DIVISION 11 — SPLIT-CORONA DAFFODILS OF GARDEN ORIGIN

Corona split rather than lobed and usually for more than half its length.

DIVISION 12 — MISCELLANEOUS DAFFODILS

All daffodils not falling into any one of the foregoing Divisions.

NOTES

The characteristics for Divisions 5 to 9 are given for guidance only; they are not all necessarily expected to be present in every cultivar assigned thereto.