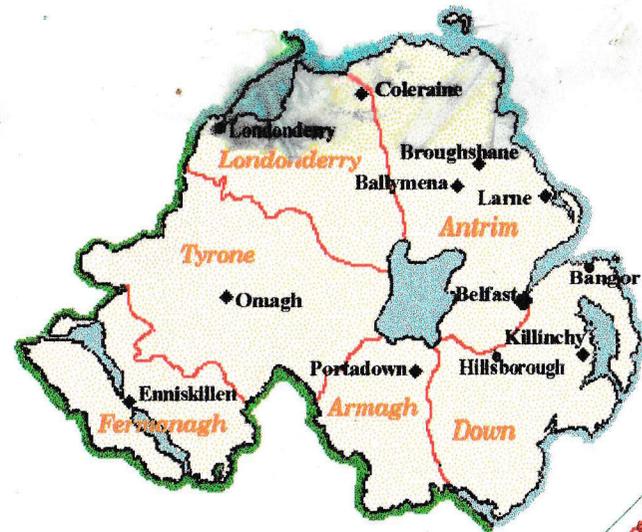


Newsletter
of the
Northern Ireland
Daffodil Group



Half yearly publication.

Spring 98
Issue

**THE NORTHERN IRELAND DAFFODIL GROUP
NEWSLETTER**

VOL 5 NO. 2

March 98

OFFICERS OF THE GROUP

Chairman

M. J. WARD, 20 Cluny Grove, Killiney, Co Dublin

Vice Chairman

N. WATSON, Ringhaddy Lodge, Killinchy, Co. Down.

Treasurer

J. CARLISLE, 22 Moira Drive, Bangor, Co. Down, BT20 4RN

Secretary

R. McCAW, 77 Ballygowan Road, Hillsborough, Co. Down
BT 26 6EQ - Telephone (01846) 682920

Committee

B. S. DUNCAN, Knowehead, 15 Ballynahatty Road, Omagh.

R. CURRY, 19 Beechdene Gardens, Lisburn, Co. Antrim.

S. McCABE, 21 Parkmount Crescent, Ballymena, Co. Antrim.

G. WILSON, 5 Mallory Gardens, Lisburn, Co. Antrim.

Co-opted members

Dr. M. CHESTNUTT, 29 Lisburn Rd., Hillsborough, Co. Down.

W. J. E. DUKELOW, 17 Birchwood, Omagh, Co. Tyrone

J. SMYTH, Forthill, 35 Tullyglush Rd. Banbridge, Co. Down.

M. KERR, Downfield, 223 Seven Mile Straight, Crumlin,
Co. Antrim

Editorial Committee

W. J. E. DUKELOW, S. McCABE and M. KERR.

Auditor

SIR FRANK HARRISON, Ballydorn, Killinchy, Co. Down

CHAIRMAN'S REMARKS

Well, I have managed to get through my first year as your Chairman, without, I hope, missing too many meetings. For this I must say a particular word of thanks to Richard McCaw who received my apologies calmly and also my thanks to Nial Watson who covered for me when I was missing.

The Belfast Show in the Maysfield Leisure Centre was a well-filled display of flowers; this coming after a rather late start to the season and then a rapid acceleration of growth with the very warm spell of weather in April. The Daffodil Group stand at the Show was a tribute to Nial Watson and his helpers, and we must thank them for all the effort they put into this. There is another group of our members who work very hard after everyone else has gone home, and I refer to those who stay to tidy up, emptying, sorting, counting and packing away all the vases.

The late Show was held in Carncairn and Kate and Robin Reade, with the generous assistance of Richard and Pam, entertained a large group to a very enjoyable luncheon before we got down to the main business of daffodils.

In mid-summer!! we gathered at the home of Nial and Hilary Watson for a barbeque. We were extremely fortunate, that in the middle of a very chilly and wet part of summer, we were able to sit in the sunshine and enjoy the pleasant company and the beautiful scenery. Our thanks to Nial and Hilary for looking after us so well.

John McAusland again hosted the Lily show and I hear

that he entertained all his guests with his usual aplomb and generosity.

During the year, Sandy McCabe and Brian Duncan have been the leading lights together with Sam Dukelow, Jack Carlisle and Richard McCaw in organising the World Daffodil Tour which will be with us in April. They appear to have got all our members involved in the reprinting of our book "Daffodils in Ireland", and I hope that everyone is co-operating.

Maurice Kerr, our Newsletter editor, keeps up the good work and together with Sam Dukelow and Sandy McCabe deserves our best thanks.

The permanent officers, Richard McCaw and Jack Carlisle, keep our Group running and financially sound, and we owe them a great debt of gratitude for the work that they do.

We look forward to the Daffodil Tour in the fourth week of April, and I hope that you will all help to entertain our guests who will be coming from many parts of the globe. Please do not forget that the Belfast Show moves to Malone House, a new venue for this year.

M. Ward

SECRETARY'S REPORT

It is my pleasure to present my report and thoughts on the past, present and future of the N.I.D.G. at this exciting time in our group's history.

Belfast Show was down, exhibits wise in 1997, but with the introduction of new classes we were able to maintain the number of blooms. I have some details of figures so as to compare with the previous year,

Overall Exhibits at the show were down from
1408 in 96 to 1079 in 97.

Daffodil Exhibits 970 - 96 to 705 - 97

Daffodil Open Section 152 - 96 to 213 - 97

Daffodil Amateur Section 594-96 to 301 - 97

Daffodil Novice Section 224 - 96 to 191 - 97

One other figure for you, total blooms in 96 was 1526 to 1389 in 97 so you can see we were only slightly down on flower power. The new site for this years show is Malone House, which I think is a very appropriate place, set in woodland there are many Daffodils planted as well as a Field of Hope. Mention must be made of all the members who stayed behind at the end of the show and helped clear up, this is unseen work and I would ask as many people as possible to stay and help. Special mention for our show table organisers, Nial Watson and Sandra Wilson, many members pulled their resources to put together a fine exhibit. Again we were best Exhibit in the Show. Little has been changed with regard to the show schedule, notably a South East England Daffodil Medal has been donated and will be awarded to the winner of our new International class. As we are entertaining a lot of visitors at our Show this year and all Judges will be guests, I would ask that all Stewards be available as soon as coffee is finished on the morning of the Show.

Many new daffodil plantings were made at Sir Thomas and Lady Dixon Park in Belfast last Autumn and we are pleased to announce, in co-operation with Belfast Parks, a 'Tour Daffodil' will be selected by our visiting guests on the Friday morning before the Show.

The programme last year had many varied and stimulating meetings, among the popular ones seem to be the Workshop Panels, which are made up of our own Members and takes the form of a debate on a chosen subject. Again many of these meetings were led by our own members and I would say thank you to all for making my life run smoothly. By now you will have our program of events for 1998, please feel free to copy this especially those members who are involved with other gardening societies. I

feel horticultural societies are a good untapped area for new members, do not forget that their members may already be growing and showing and just waiting for that gentle nudge from you to specialise in Daffodils. We have had 8 new members join this year but several names have been deleted due to membership not being renewed. At recent meetings I feel attendance has been poor. As a tremendous amount of work is needed to run these I would ask you to support as many as possible.

Our Newsletter continues to flourish in the hands of our Editorial Committee even though it always seems harder to get new material in. I will say no more as there will be an editorial report later but the thanks of the Group go to Sam, Maurice and Sandy. This year it is hoped to publish a Daffodils in Ireland '98 Edition. Many man hours have already gone into this which makes it even more important that material is supplied for our Newsletter.

As you read through the copies of our Newsletter you will not fail to notice that a lot of good humoured 'banter' goes on in its pages, (read 'A Trip Worth While' by someone called John Ennis in our Autumn '97 edition). All I can say is that 'temporary can quickly become permanent and that I do not intend to buy silver polish until after this years Enniskillen Show. Seriously, congratulations from us all to John on a fine win in the Bowles Cup in London in '97. This was a fantastic win, now this John is temporary. Just wait until I find my London schedule.

The N.I.D.G. World Tour is almost upon us and the tour committee has spent many long hours planning for this event. This committee is steered by Sandy McCabe and Brian Duncan. As there will also be a Tour report later I will only appeal to all members to give them your wholehearted support. The last World Tour here was in 1979 so lets make this one even more memorable and send our visitors home with spectacular memories of Ireland.

On a personal note ,I am putting together slides of ' Faces ' past and present, so if anyone has any spare slides that I can use

or copy I would be very grateful if they would contact me.

Last years show season was early and every exhibitor worked hard at displaying their best flowers, right up to the Late Show. I would ask you to support as many shows as possible and I hope you have a very rewarding and enjoyable show season.

R.McCaw

EDITOR'S COMMENTS

May I take this opportunity of thanking all those who have contributed copy this past year and to Sam and Sandy for proof reading copy before publication. The Newsletter I feel has now achieved a nice balance between the educational aspects and news. I would urge all members to keep contributing articles as this is your platform where you can raise issues or pass comment on what is being printed.

I would like to raise an issue on which others within the group might like to air their views. The issue is when does an unregistered seedling become an unnamed cultivar. Seedlings frequently appear on the show bench for many years and as far as I can see may continue to do so for the foreseeable future. Surely if we are to encourage the introduction of new varieties we need to have some guidelines as to how long a seedling can be shown as a seedling before either being registered or classed as an unnamed cultivar.

I myself use some seedlings which I have bred or acquired as long as 10 years ago and can still stage these on the show bench under seedling number as the original breeder has never registered them. This I presume is due to the fact that they are not a significant improvement on what is already available and yet they continue to lift prizes on the show bench and on occasion have been brought out for consideration when best seedling is being judged.

I would suggest that there should be a definite demarcation as to the age of a bulb from when the cross was carried out or a certain number of years from when it first flowers after which it should be shown as an unnamed variety.

There are drawbacks to the introduction of such a scheme. It depends on how well records are kept and the information available to the person staging the bloom. The breeder would need to inform those who acquire seedlings from him as to how long the purchaser would be able to enter the blooms as unregistered seedlings.

Should seedlings only be staged in seedling classes? Or would it be a greater incentive if the best seedling in show was only chosen from unregistered seedling classes? I myself would be inclined to opt for the first suggestion where there should be an age limit on the bulb. Quite often I would stage new seedlings in classes where they are in competition with established varieties. I do this for two reasons as I am now in the fortunate position of having bred quite a number of seedlings which are worthy of staging on the show bench and it gives me a greater 'kick' as a prize won against established varieties gives me a better indication of what others think of the seedlings. To stage all the newer seedlings in seedling only classes would mean that this would often involve multiple entries and on rare occasions would limit my entries in other classes.

Now that I have raised the issue I await with anticipation the reaction of you all and would encourage you to express your views. Our friends in the southern hemisphere I believe have already broached this issue and maybe we have something to learn from their experience.

Have a good show season and put your pen to paper and let me have your thoughts on the subject.

M. Kerr

Northern Ireland Daffodil Group

Summary of Expenditure and Income for the year ending
31st December 1997

INCOME		EXPENDITURE	
Balance brought forward	£5386.46	Magazine	£661.13
Interest Received	£198.68	Secretarial Expenses	
Subscriptions	£290.50	Postage etc.	£179.49
Fund Raising	£642.08	Meetings	£310.
Autumn Fair	£108	Vases and Trophies	
		less sales	£449.92
		Show Dinner	£114.23
		Balance carried forward	£4910.95
	£6625.72		£6625.72

A.J. Carlisle
Honorary Treasurer

Proposed Programme.

June 21st Trip to Castle Espie.
Aug. 23rd Lily Show at J.McAusland' s Lisburn.
Sept. 27th Bob Brooks - Colour in the Garden.
Oct. 25th Bulb Auction, also H.W.T. and Fertiliser use.
Nov. 22nd Exhibition, Selection, Staging and Grooming Workbench.

BASIC PLANT REPRODUCTION AND GENETICS A beginners guide

All living organisms share one thing and that is they all will eventually die. If the species is not to become extinct then they must reproduce themselves. There are basically two ways that this can be done, either asexually or sexually.

Asexual reproduction allows for a rapid increase in the population. This method is used by bacteria, fungi, protozoa, algae, many plants and a wide range of animals (Phillips & Chilton 1995). The main advantage is that only one parent is required. Genetically all the offspring are identical to the parent and are known as clones. There are many examples of asexual reproduction. The horizontal stems or stolons of strawberries produce new plants at the nodes. Underground stems or rhizomes such as couch grass and of course bulbs with their offsets as in daffodils. Man has taken advantage of this system of reproduction to multiply plants that please him by cuttings, layering and twin scaling bulbs. The latter can be taken even further using micropropagation, though sterile conditions are required for high success rates. High rates of multiplication giving at least one thousand bulbils per year from a single bulb are possible and every plant would be true to type (Yong Neng Chow 1990).

Sexual reproduction is used by virtually all living organisms and is often the only method available to more complex organisms such as vertebrates. Sexual reproduction requires the fusion of male and female sex cells known as gametes. When they fuse a new cell called a zygote is formed which has the potential of developing into an adult. Sexual reproduction has the great advantage of producing offspring where characteristics are different from both parents due to genetic variation.

A daffodil is yellow because it possesses in its cells a gene for that colour. A gene is composed of deoxyribonucleic acid (DNA),

which was first discovered in 1953 by Francis Crick and James Watson. (Freans 1983 : Margulis and Sagan 1995) The genes are joined together to form chromosomes which are usually arranged in pairs with each chromosome having the genes responsible for various characteristics in the same position on the chain as in its pair. For example the gene for colour on one chromosome will be opposite the gene for colour in its pair.

Fertilisation depends on the fusion of the nuclei of the gametes from both sexes. If each of these gametes' nuclei had a full set of chromosomes the nucleus of the resulting fusion would have twice the normal compliment and so on when the adult breeds. This is avoided by halving the DNA and by segregation of the pairs of chromosomes. This process is known as meiosis and in daffodils takes place in the anthers, the male, and the ovaries, the female.

At fertilisation in a daffodil the pollen grain arrives on the stigma of the seed parent. It germinates to form a pollen tube which grows down the style through the ovary wall to the ovule. The male nucleus from the pollen grain passes down the pollen tube to fuse with the female nucleus to form a zygote. The Zygote develops to become seed (Ford Robertson 1994).

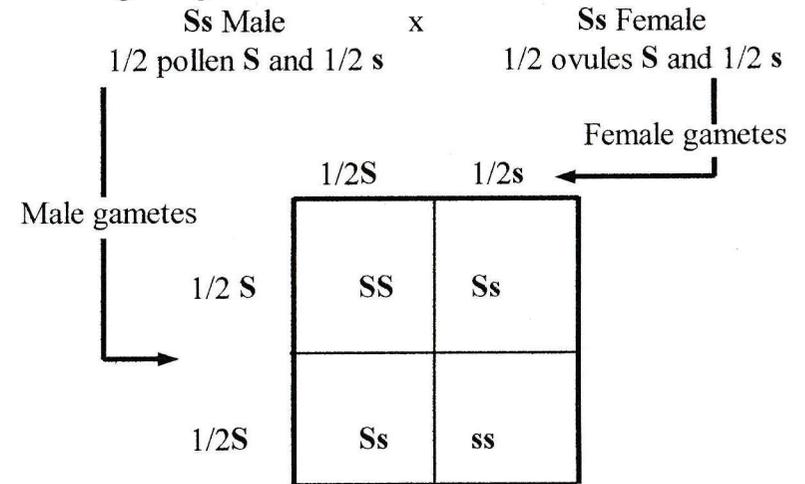
As mentioned above chromosomes occur in pairs and the genes which are on the chromosome also appear in pairs. A pair of genes that appear at the same place (locus) on the same chromosome are called alleles. A major breakthrough in the understanding of genetics was in the mid 1800s when a monk called Gregor Mandel discovered that, what he called factors and we call genes, controlled the characteristics of an organism (Phillips and Chilton 1995). He crossed two pure bred varieties of peas. One produced smooth seed and the other wrinkled. In the first generation of the crossed smooth and wrinkled all the resulting peas were smooth irrespective of whether they developed on a parent plant with smooth or wrinkled characteristics. This generation is called the 1st filial or F1 generation. He then crossed the F1 generation with each other.

The new seeds were the grandchildren of the original pure bred plants and called the F2 or second filial generation. Three quarters of these seed were smooth and one quarter were wrinkled. The following diagram demonstrates the principle. S represents the factor for smooth seeds and s represents wrinkled. Being pure each parent has two genes the same.

Male Parent Smooth Female Parent Wrinkled
 SS x ss
 all pollen is S all ovules s

F1 generation - all offspring Ss and all were smooth.

Crossing this generation



F2 generation 3/4 were smooth and 1/4 were wrinkled.

After much more research Mendel's first law was evolved and called the First Law of Segregation. It states that an organism's characteristics are controlled by "factors" which are normally

carried in pairs, but which occur singly in the gametes. (Phillips & Chilton 1995). He also concluded that one factor can be dominant over another and this dominance is represented by the capital letters as in S for smooth. The recessive gene is represented by a lower case letter as in s for wrinkled. (Galyon 1997)

The nucleus of a cell contains a number of sets of chromosomes. The sets are normally found in pairs and when this is the case the cell is said to be diploid. Most narcissus species are diploid and have seven pairs of chromosomes or 14 chromosomes. During meiosis each of these pairs are divided to give gametes with seven single chromosomes in each. These gametes are said to be haploid and the letter 'n' is used to demonstrate this, when the gametes fuse diploid state is resumed. Diploid cells would therefore be referred to as 2n or twice the haploid number. The number of chromosomes in the cell nucleus of a particular species of animal or plant is often regarded as constant. As far as is known this is true for most animals and the majority of plants. However, in both, the chromosome number sometimes fluctuates considerably. These fluctuations are due to irregularities in cell division. Instead of the normal number of chromosomes, diploid, there may be three times the haploid number, triploid, and arranged in sets of three, four times the haploid number arranged in sets of four, or even higher numbers still. Such individuals are known as polyploids (Dowdeswell 1967). Most present day daffodils in divisions 1, 2, 3, 4, and 11 are tetraploid having seven sets of four chromosomes totalling 28. Some remain as diploids having seven sets of two, 14, and others are triploid having seven sets of three, 21 (Galyon 1997). If a gamete contains a full set of diploid chromosomes, 2n, and fuses with another it can then produce a triploid 3n or a tetraploid 4n. Triploids are generally infertile. However, tetraploids can reproduce amongst themselves and, in effect, form a new species (Phillips & Chilton 1995). When pairs of chromosomes are compatible they are referred to as Homologous and associate during meiosis to form functional gametes. However

if they are incompatible and will not associate in pairs at meiosis they are referred to as non-homologous and are sterile. The crossing of the poeticus species with pseudonarcissus is possible as their chromosomes are homologous and the cross gives rise to fertile divisions 2 and 3. However all the other divisions are non-homologous with this cross, they are also non-homologous to each other. So in daffodils the first generation of divisions 5, 7, and 8 are normally sterile due to the non-homologous chromosomes involved (Galyon 1997).

DNA, the chemical of the genes, is very stable and is normally transmitted from one generation to the next without alteration. Occasionally a spontaneous change occurs at a gene locus (site) without any corresponding effect on the number of chromosomes or their structure. A new variety is thus formed (Dowdeswell 1967) In nature this is very rare and is called gene mutation. However, the incidence of gene mutation can be artificially encouraged by exposing the organism to mutagenic agents. These include radiation, x-rays, u.v.light and certain chemicals. An example of this in the daffodil world is Rio Rouge whose ancestors' seeds were exposed to radiation.

We have seen from Mandel's experiment that although we know the seeds in the F1 generation had genes from both smooth and wrinkled parent they all appeared smooth. The physical appearance is referred to as the phenotype as contrasted by the genotype which is its genetic makeup. One phenotype may have more than one genotype e.g. SS, Ss (two genotypes with the one smooth phenotype).

So to sum up. All living organisms need to reproduce and they can use either asexual or sexual methods. Asexual requires only one parent and all the offspring are genetically identical. Sexual, the only method available to vertebrates, requires male and female sex cells to fuse and produce a viable zygote. This has the advantage of producing genetically variable offspring.

Chromosomes are made up of genes (DNA) which are responsible for the various characteristics of an organism. The gene for a specific characteristic always appears at the same place on the chromosomes. Chromosomes are usually found in pairs, diploid, but also in groups of three, triploid, four tetraploid or more. In order to reproduce the chromosome number has to be halved. This is done by meiosis so that the sex cells, gametes, have half the number of chromosomes as the main organism. When the gametes fuse the full complement is returned. Gregor Mendal discovered that certain genes had dominance over others and that these genes controlled the characteristics of the organism. When pairs of chromosomes are compatible, homologous, viable gametes are formed but when they are not, non-homologous, they are sterile. DNA is a very stable substance but can change given certain circumstances, this is known as gene-mutation. The physical appearance of an organism is the phenotype whereas the genotype is its genetic make up. A phenotype may have more than one genotype.

Reproduced from a talk given by Nial Watson

Bibliography

- Dowdeswell, W.H. - The Mechanism of Evolution,
Heinmann, 1963 - page 27.
- Galyon, F.B. - The Terminology of Daffodil Breeding,
A.D.S. Daffodil Journal 1997 - page 18
- Phillips, W.D. & Chilton, T.J. - A Level Biology,
Oxford University Press 1995
- Fream's Agriculture - Edited C. Spedding 1983
- Margulis, L. & Sagan, D. - What's Life?
Weidenfell & Nicolson 1995
- Ford-Robertson, J. - G.C.S.E. Biology.
Letts study guide. 1994
- Yong Neng Chow. - Micropropagation of Narcissus,
N.I.D.G. Newsletter Oct. 1990

WHITE TRUMPETS

Brian S. Duncan

White trumpets have always had a special appeal for me. Why? Probably because of the impact of some early show bench winners when I first became interested in daffodils. I still have vivid memories of Tom Bloomer's 'Best in Show' at Ballymena many years ago - a magnificent 'White Empress' of great size and frosty whiteness which Willie Dunlop the judge, described as the best white trumpet he had ever seen. Alas, like most lauded and praised new show bench prima donnas 'White Empress', when more widely grown was found to have faults. Though capable of producing outstanding blooms it was found lacking in consistency of form, size and tended to be short and pale stemmed. Strangely, though 'White Empress' tended to pass on it's whiter than white diamond dusted colour and texture to its progeny, it also passed on it's pale yellowish and weak stems. What a pity because I doubt if it's purity of whiteness has been equalled in any of the numerous more recent introductions. Perhaps the nearest is 'Cataract' raised by Murray Evans. Again, I have a wonderful bloom of this cultivar in my minds eye - shown at an American Daffodil Society Convention in Nashville by Bill and Diane Tribe of Oregon Trail Daffodils. Only once has it produced anything like that wonderful form in Omagh.

White trumpets can provide the most magnificent flowers but it never has been easy to predict how they will perform. Others to really impress over the years have been 'Empress of Ireland' (of course), 'White Prince', 'Panache', 'Silent Valley', 'April Love', 'Burntollet' and 'White Star'. Really good, well grown specimens of these varieties could still win against any of the newer introductions. I have seen wonderful specimens of all of these cultivars winning at shows. New seedlings must match these high standards to be regarded as worthwhile. Many crosses have been made towards the aim of a white trumpet with the size and vitality

of 'White Star'; the whiteness of 'White Empress'; the elegance and style of both 'Silent Valley' and 'Empress of Ireland'; the trumpet finish of 'White Majesty' and with major resistance to basal rot, I confess to failure. 'Vigilante' was introduced years ago as an improved 'Vigil' but makes terrible bulbs and has been discarded. 'Sherpa' is my best to date, and though it is a large regular and vigorous performer it has an annoying habit of sometimes curling one petal and it is not as white as I would like. However it has the great merit of being later than most white trumpet daffodils and is very useful for late season shows.

Despite the wonderful specimens of the above named cultivars, which have been seen on show benches, all of them have faults either of consistency or of vigour. It is my view that white trumpets are perhaps the most difficult of daffodils to grow well because they seem to be more sensitive to different seasonal, climatic and cultural conditions than most daffodils. To get a really good one is therefore all the more rewarding.

Having been critical of well known cultivars what then is to be recommended? Two of Tom Bloomer's are still bankers. 'Silent Valley' has that wonderful slender elegance of style and can still win 'Best in Show'. It is not quite white and has a tendency to nick a petal. It is also invaluable in warmer areas because of its resistance to basal rot. 'White Star' is a massive pure white bloom of faultless form in grand style and is a plant of extraordinary vigour in northern climes. Alas it too has its faults, being prone to basal rot if the temperature rises above 70°F and it has a shy pose requiring 'horizontal' treatment before staging. Despite these faults these two remain personal favourites. 'Empress of Ireland' is still worth a place in collection classes, especially if pot grown. It is more consistent than most and I think many growers have been too quick to discard it from their collections.

Of the newer varieties 'Night Flight' from Clive Postles is probably on everybody's shopping list as a result of the magnificent and massive 'Best Bloom' flower at last years London

Daffodil Show. If it consistently produces such flowers over a range of conditions then it certainly will be a valuable addition. John Pearson's 'Quiet Waters' has been gaining a reputation. I've seen some nice specimens but it somehow seems to lack true trumpet character despite its measurements.

I have grown most of the American white trumpets from Mitsch/Havens, Evans and Pannill, primarily for breeding material. 'Chaste' is lovely and probably had the best press comment it is beautifully white with a green eye and has won in London - a worthwhile acquisition. 'Blue Danube' and 'Denali' have yet to produce their best for me but I remain optimistic. However, the really outstanding flowers are 'Bridal Chorus' from Mitsch/Havens and 'Virginia Walker' raised by Bill Panill. The former though not quite as white as 'White Empress' is truly a magnificent bloom of largest size, with beautiful oily smooth and flat broad petals and a nicely balanced trumpet. I think we will see more of this cultivar when the 'Withdrawn for Increase' sign is lifted. 'Virginia Walker' is new to me and yet to settle but if it produces blooms like those shown by its raiser then I look forward to seeing it on the show benches of Northern Ireland.

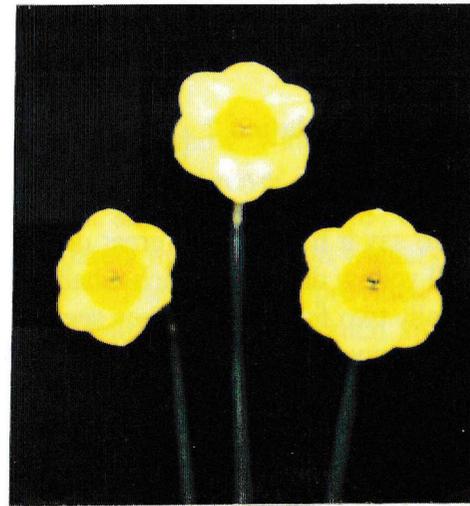
From these notes it is obvious that there is not a clear exhibition leader amongst the white trumpets. Quite a few cultivars are capable of producing outstanding specimens but there is still much scope for breeders to combine the best qualities of existing varieties and thereby produce flowers with improved health, consistency and purity of whiteness.

Show Dates 1998

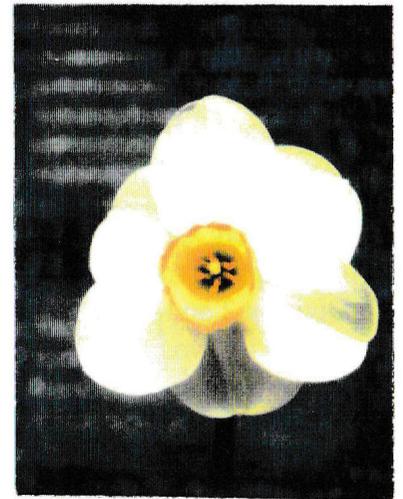
March 29th	.N.I.D.G Early Show,	Coleman's Templepatrick
April 4th.	Enniskillen	Hillsborough
		R.H.S. Ireland
April 11th.	Coleraine	
April 18th.	Londonderry	Ballymena
		South County Dublin
April 25/26th.	Belfast	
May 2nd.	Omagh	
May 10th.	N.I.D.G. Late Show,	Nial Watson's, Ringhaddy.



Best Blooms Belfast 1997
 From right 'Chobe River' - R. McCaw,
 'June Lake' - J. Ennis, 'Nonchalant' - R. McCaw,
 'Dorchester' - R. Curry, 'Lilac Charm' - B. S. Duncan.



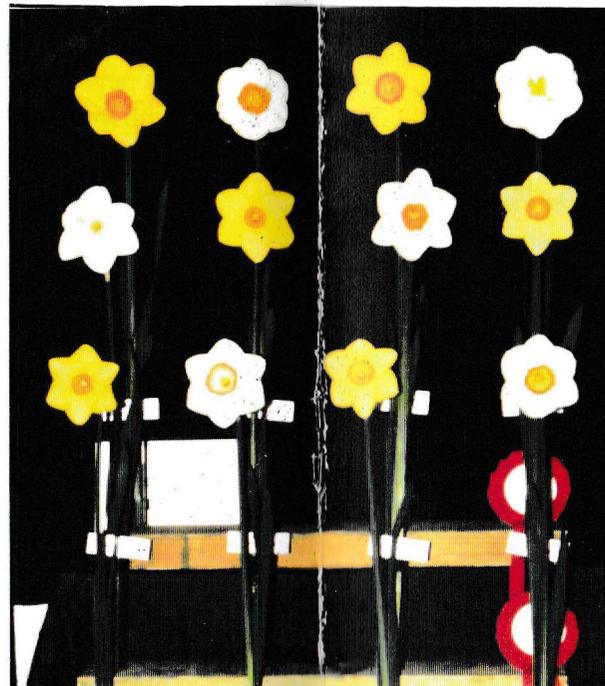
Best miniature exhibit Omagh 1997
 'Sun Disc' - R. McCaw



Best bloom Late Show 1997
 'Notre Dame' - B. S. Duncan.



Best 3 bloom vase Belfast 1997
 'Goldfinger' - J. Ennis.



First Prize 12 bloom class Omagh 1997
 - B. S. Duncan.



Best Bloom Belfast 1997
 'Chobe River' R. McCaw.

DIVISION 2Y-Y The Poor Relation ?

Reg Nicholl

It may seem rather outlandish to say it but I have a great deal of sympathy for the large cupped all yellow daffodils which inhabit Division 2 and the reason is principally two fold. Firstly, they seem always to live in the shadow of the trumpet daffodils and secondly they have two distinct configurations, namely the 'trumpet' style and the 'cup' formation. So within the parameters of symmetry there is already a conflict before we discuss the poor neighbour aspect.

Looking back exactly forty years the Royal Horticultural Society's ballot for Exhibition cultivars included but one solitary entry for the Division 2 all yellow flowers, one which for long was regarded as the section 'banker', 'Galway' (Richardson 1943) and even then it could muster only a niggardly three votes in its joint sixteenth place and the poor soul didn't warrant a mention in the Sub-Division, Varieties for Exhibition list. The ballot was the opinion of, as it was termed, "Twenty one daffodil Specialists" and in a further ballot conducted at the same time the general public gave the 'thumbs down' to the type under discussion, by not selecting a single one.

However not to be too downbeat, a decade later, 'Galway', again is joined by two new names in the list 'Ormeau' and 'St. Keverne', albeit the latter not being new in the sense of age in that it had first been registered by M. P. Williams in 1934. 'Galways' star was now very much in the ascendancy having climbed to the giddy heights of second in the list of 'Varieties for Exhibition'.

The aforementioned three pretty well dominated the show bench until the mid-sixties when co-incidentally a trio of new cultivars arrived on the scene in the form of 'Camelot' (1962), 'Golden Aura' (1964) and 'Strines' (1965). The latter two quickly surpassed the older cultivars and established themselves as the

leading show winners and although 'Camelot' had its many adherents it never had quite the poise or finesse of its compatriots but subsequently was to outshine them in another field, that of parent of competition winners yet to come.

The seventies provided us with perhaps the most fecund decade so far with such splendid offerings as Tom Bloomer's highly rated pair 'Golden Jewel' and 'Golden Joy', Richardson's 'Celtic Gold', which promised to be a 'super' version of the much smaller 'Golden Aura' but was found wanting, 'Eskylane' from Carncairn, and John Blanchard's fine 'Bryanston', which would go on to win the Best bloom in Show award at the R.H.S. Show in 1977.

But the flower, that in my humble opinion topped them all was not even registered initially in the Division 2 category but was shepherded into Division 1. Subsequently having failed the perianth /corona measurement test was relegated to the 'lower' division. Get the drift about the failed trumpet? It was generally thought that not having made it in the premier segment it would gently be designated an also ran but this proved not to be the case and 'Gold Convention' soon became the bench mark for its group with its tall, sturdy stance, smooth perianth and immaculate corona.

If the seventies provided us with fine trumpet type all yellows the eighties brought forth probably the best yet 'cup' model in Brian Duncan's 'Gold Bond' which already has an enviable track record both here and across the ocean. In this period John Blanchard also gave us another excellent flower in 'Bulbarrow' able to win the highest accolade but for some unaccountable reason it has been partially eclipsed. Another flower which only had limited success and was somehow 'overlooked' was Ballydorn's attractive 'Gold Mine'.

The nineties could possibly, once their prices have become more amenable, prove to be the decade of the century for the section being spotlighted, with the elegant John Lea seedling

'Special Envoy', the satin smooth medium sized, no harm in that, 'Caithness' from Clive Postles, the popular late flowering 'Coromandel' raised by Brian Duncan, two excellent cultivars from John Pearson 'Goldhanger' and 'Bugle Major' and last but certainly not least Noel Burr's very new 'Saxonbury', perhaps his best flower to date.

Perhaps in closing I should relent and having collated a wonderful collection of superb daffodils there is really no need to feel sorry for them.

NORTHERN IRELAND DAFFODIL GROUP

GRAND BULB BALLOT 1997

LIST OF WINNERS

Young Blood	C. Cochrane	Solar Tan	G. Wilson
Silver Crystal	D. Turbitt	Triple Crown	J. McAusland
Crackington	R. Gilpin	Soprano	J. Carlisle
Park Avenue	R. Gilpin	Dispatch Box	G. Wilson
Ethereal Beauty	G. Wilson	Show Band	C. Cochrane
Val D'Incles	C. Cochrane	Crackington	C. Cochrane
Creagh Dubh	J.R. Smith	Delnashaugh	J. McAusland
Triple Crown	G. Wilson	Ethereal Beauty	D. Turbitt
Colourful	G. Wilson	Hero	D. Turbitt
Delnashaugh	R. McCaw	Young Blood	J. Carlisle
Gold Convention	J. Carlisle	M. Kerr Seedling	J. Carlisle
S. Dukelow Seedling	J. McAusland	Lurig	R. Gilpin
Conestoga	D. Turbitt		

The N.I.D.G. would like to thank 'Trade' growers and leading exhibitors who donated bulbs and congratulate the above winners.

DAFFODIL CLASSIFICATION SYSTEM

July 1998

Whether of wild or cultivated origin, once a selection has been distinguished by a cultivar name it should be assigned to Divisions 1-12. Daffodils distinguished solely by botanical name should be assigned to Division 13.

Note The characteristics for Divisions 5 to 10 are given for guidance only; they are not all necessarily expected to be present in every cultivar assigned to those divisions.

DIVISION 1 - TRUMPET DAFFODIL CULTIVARS

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

DIVISION 2 - LARGE-CUPPED DAFFODIL CULTIVARS

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 DAFFODIL CULTIVARS

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

DIVISION 4 - DOUBLE DAFFODIL CULTIVARS

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

DIVISION 5 - TRIANDRUS DAFFODIL CULTIVARS

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

DIVISION 6 - CYCLAMINEUS DAFFODIL CULTIVARS

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

DIVISION 7- JONQUILLA AND APODANTHUS DAFFODIL CULTIVARS

Characteristics of Sections Jonquilla or Apodanthi clearly evident: one to five (rarely eight) flowers to a stem; perianth segments spreading or reflexed; corona cup-shaped, funnel-shaped or flared, usually wider than long; flowers usually fragrant

DIVISION 8 - TAZETTA DAFFODIL CULTIVARS

Characteristics of Section Tazettae clearly evident: usually three to twenty flowers to a stout stem; perianth segments spreading not reflexed; flowers usually fragrant

DIVISION 9- POETICUS DAFFODIL CULTIVARS

Characteristics of the *N. poeticus* group: usually one flower to a stem; perianth segments pure white; corona very short or disc-shaped, usually with a green and/or yellow centre and a red rim, but sometimes of a single colour; flowers usually fragrant

DIVISION 10- BULBOCODIUM DAFFODIL CULTIVARS

Characteristics of Section Bulbocodium clearly evident: usually one flower to a stem; perianth segments insignificant compared with the dominant corona; anthers dorsifixed (ie. attached more or less centrally to the filament); filament and style usually curved.

DIVISION 11- SPLIT-CORONA DAFFODIL CULTIVARS

Corona split - usually for more than half its length

a) Collar Daffodils

Split-corona daffodils with the corona segments opposite the perianth segments; the corona segments usually in two whorls of three.

b) Papillon Daffodils

Split-corona daffodils with the corona segments alternate to the perianth segments; the corona segments usually in a single whorl of six

DIVISION 12- OTHER DAFFODIL CULTIVARS

Daffodil cultivars which do not fit the definition of any other division.

DIVISION 13- DAFFODILS DISTINGUISHED SOLELY BY BOTANICAL NAME

SECTION TAPEINANTHUS

Autumn flowering; one to four flowers to a rounded stem; leaves very narrow, glaucous, not always present on flowering bulbs; flower ascending, yellow; corona absent or rudimentary; anthers widely exerted from the tube, much shorter than the filaments, dorsifixed.

SECTION SEROTINI

Autumn flowering; usually one to two flowers to a rounded stem; leaves very narrow, glaucous, not always present on flowering bulbs; perianth segments pure white, usually twisted; corona very short, yellow, orange or green; anthers included in or slightly exerted from the tube, longer than the filaments, dorsifixed; flowers fragrant.

SECTION AURELIA

Autumn flowering; three to twelve flowers to a compressed stem; leaves flat not channelled, glaucous; flowers white; corona rudimentary or absent; filaments unequal in length; anthers exerted from the tube, dorsifixed; flowers fragrant.

SECTION TAZETTAE

Autumn to Spring flowering; three (rarely two) to twenty flowers to a usually compressed stem; leaves flat or channelled, usually glaucous; flowers white, yellow or bicoloured; anthers included in or slightly exerted from the tube, much longer than the filaments, dorsifixed; flowers fragrant. The rounded stem and green leaves of *N. aureus* atypical, also the orange corona of *N. elegans*

SECTION NARCISSUS

Spring flowering; usually one flower (exceptionally two to four) to a compressed stem; leaves flat not channelled, glaucous; perianth segments pure white; corona disc-shaped or very shallow, sometimes of a single colour, but usually with base green, mid-zone yellow and rim red or orange and often scarious; anthers partly exerted from the tube, much longer than the filaments, dorsifixed; flowers fragrant. Section covers *N. poeticus*.

SECTION JONQUILLA

Spring flowering; one to five (rarely eight) flowers to a rounded stem; leaves narrow or semi-cylindrical, green; flowers yellow, never white; perianth segments spreading or reflexed; corona usually cup-shaped, usually wider than long; anthers included in or partly exerted from the tube, much longer than the filaments, dorsifixed; flowers fragrant. The Autumn flowering, green-flowered *N. viridiflorus* is atypical.

SECTION APODANTHI

Spring flowering; one flower or two to five to a somewhat compressed stem; leaves narrow, channelled, glaucous; flowers white or yellow, never bicoloured; perianth segments spreading or slightly reflexed; corona cup-shaped, funnel-shaped or flared, usually wider than long; anthers included in the tube or three included and three exerted, much longer than the filaments, dorsifixed.

SECTION GANYMEDES

Spring flowering; one flower or two to six to an elliptical or cylindrical stem; flowers pendent, white or yellow or somewhat bicoloured; leaves flat or semi-cylindrical; perianth segments reflexed; corona cup-shaped (rarely campanulate); anthers three included in the tube, three exerted (often beyond the corona), equal to or much shorter than the filaments, dorsifixed. Section covers *N. triandrus*.

SECTION BULBOCODIUM

Autumn to Spring flowering, one flower to a rounded stem; leaves narrow, semi-cylindrical; flowers white or yellow; perianth segments insignificant compared with the dominant corona; anthers widely exerted from the tube (often beyond the corona), much shorter than the filaments (which are usually curved), dorsifixed

SECTION PSEUDONARCISSUS

Spring flowering; usually one flower to a more or less compressed or sometimes rounded stem; leaves flat or channelled, usually glaucous; flowers white, yellow or bicoloured; perianth segments usually spreading or inflexed; corona more or less cylindrical, often flared at mouth, yellow or white (never orange or red); anthers exerted from the tube, equal to or shorter than the filaments, sub-basifixed. The green leaves, rounded

stem and strongly reflexed perianth segments of *N. cyclamineus* and the two to four flowers to a stem of *N. longispathus* and *N. nevadensis* are atypical

NOTE - Natural hybrids distinguished by botanical names are also assigned to this Division.

REVISION OF THE DAFFODIL CLASSIFICATION SYSTEM

To the National Daffodil Societies

Copied to the National Registrars

The attached **Classification System** is a revision of that which was published in 1989 in *The International Daffodil Checklist*. It was drawn up by the Narcissus Classification Advisory Committee in consultation with the national daffodil societies and comes into force in July 1998.

Note the start date. The start date was originally planned for earlier in 1998. But with the revisions due for publication in the new edition of *The International Daffodil Register* in April, mid-way through the northern hemisphere daffodil season, it seemed sensible to wait for the next full season before implementing them. The southern hemisphere season of 1998 will thus see the first use of the revised System.

Revisions to the System are as follows:

Division 6

- a) Now reads ...one flower to a stem, not ...usually one flower to a stem.
- b) Now reads ...perianth segments significantly reflexed, not ...perianth segments reflexed.

Division 7

Has been rewritten to include the characteristics of Section Apodanthi described in Division 13

Division 8

Has been rewritten to reflect the characteristics of Section Tazettae described in Division 13.

Division 9

Has been rewritten to reflect the characteristics of the *N. poeticus* group described under Section Narcissus in Division 13.

Division 10

Now covers Bulbocodium Daffodil Cultivars, not Species, Wild Variants and Wild Hybrids.

Division 11

Has been sub-divided.

Division 13

- a) Has been created for daffodils distinguished solely by botanical name. These were formerly in Division 10.
- b) Includes descriptions of the botanical sections to which Division 13 daffodils are assigned.

Sally Kington Daffodil Registrar July 1997

Please note that this is published at this time so that you will have the opportunity to look at how the changes may affect you.

You will have noted that the changes affect divisions 6 and up and in particular division 11 has been subdivided. Those involved in the drawing up of schedules for shows may wish to consider how the changes may affect the show from **next year** that is the 99 season and beyond.

Words which you may wish to have the meaning of are:-

Atypical - not typical

Campanulate - bell shaped.

Exserted - projecting or protruding .

Dorsifixed ,(of an anther) - attached by the whole length of the back to a filament.

Sub-basifixed - not quite fixed to the base.

Editor

**CARNAIRN DAFFODILS
LIMITED**

GOLD MEDAL

*Old and New Varieties of
Daffodil Bulbs catering
for all tastes and all pockets*

Carncairn Lodge

Broughshane

N. Ireland

Telephone 01266 - 861216

*Tyrone
Daffodils*

Proven
exhibition
cultivars and
reliable garden
hybrids to satisfy the
discerning and novice grower

Free catalogue available from :

TYRONE DAFFODILS

90 Ballynahatty Road - Omagh - Co. Tyrone

N. Ireland BT78 1TD

Telephone Omagh 01662 242192

NARCISSUS FLOWER BULBS - Part 4

Diseases / Pests (Continued)

Fungal diseases

The basal rot disease, caused by *Fusarium oxysporum f.sp. narcissi* (Rees, 1992) can cause huge losses for commercial growers and occurs during storage. The worst inroads of the disease are made in periods of warm damp weather in the weeks prior to lifting (Jefferson-Brown, 1991). Before lifting the leaf tops get palish yellow and at lifting the infected bulbs are soft, especially near the base, discoloured in a redish brown colour and usually rootless (Rees, 1992). The rot grows rapidly and favours warm conditions(above 18 degrees C) . The whole bulb becomes soft with white and pink mycelia wefts like cotton wool, and eventually shrinks to a hard, dry and brittle former bud.

The fungus exists in the soil as dormant spores which germinate in response to host root exudates (Linfield, 1987). It is persistent in soil and has been isolated from soil that has never had narcissus as a crop (Rees, 1992). Infection occurs either through senescing roots or directly into the root plate, during growing season or during storage (HRI, 1993).

In controlling the problem, fungicidal bulb dipping for 30 minutes as soon after lifting as possible is recommended. Also by routine hot water treatment (h.w.t.) directly after lifting (Rees, 1992). Basal rot is worst in ill-drained soils (Jefferson-Brown, 1991). Annual lifting and h.w.t gives a better disease control than the usual system in the UK of biennial lifting (Rees, 1992). The breeding and selection of resistant cultivars takes a long time, but resistant cultivars are already identified (Rees, 1992).

Another fungal disease becoming more important in narcissi is neck rot, caused by the same fungus as basal rot, *F. oxysporum*, but in some cases other fungal species seem to be responsible, *Penicillium* species has been isolated (HRI,1993). The symptoms

vary from dry ginger coloured to a chocolate coloured wet rot (Rees, 1992).

The neck rot enters through the flower stalk during senescence or after flailing-off, and rotting down through the neck of the bulb (HRI, 1993). Spread of the disease occurs during storage and handling, from released aerial spores (Rees, 1992). The same control recommendations as for basal rot are suggested.

Pests

As bulbs are monocotyledons they lack some of the protective mechanisms found in dicotyledonous plants. In monocotyledons cambia are in general absent so the isolation of damaged areas and wound healing capabilities resulting from cambial activity are rare (Rees,1992). Reconstruction phenomena are restricted to dermal and cortical tissues such as epidermis and cuticle. These plants have also in general a high moisture content, another thing that makes them valuable. As compensation a lot of bulb plants have a range of protective chemicals, many being unpalatable or poisonous like oxalic acid and at least 15 alkaloids (Rees, 1992).

Nematodes

A number of species of nematodes can attack narcissi. The major pest of commercially grown narcissus is the stem and bulb nematode, *Ditylenchus dipsosia* (Jefferson-Brown, 1991). Sixty to 70 years ago this nematode nearly wiped out commercial daffodil production (Jefferson-Brown, 1991). Only a few individuals are necessary to produce severe symptoms. They multiply to several thousands during a growing season. The nematodes can leave infested bulbs and migrate to nearby bulbs by soil-water (Jefferson-Brown, 1991). They can also breed in stored bulbs, and heavily infested bulbs often die and become completely rotten (MAFF/ ADAS, 1980).

When the nematodes find themselves without any further food supply many of them don't develop beyond the pre-adult stage. This pre-adult state and young adults can in dry plant debris be persistent up to 4 years and free in soil for a maximum of one year. In moist conditions they become active again. On rotten bulbs these persistent nematodes can sometimes be seen as dirty white or buff-coloured material, known as nematode-wool (MAFF/ADAS, 1980).

Other plants like onion, broad bean, runner bean and strawberry, can also be a host for the nematode. Even brassica seedlings can be a host and should not be propagated in infested land (MAFF/ADAS, 1980). Some weeds also act as hosts. It is recommended that at least four years should elapse between bulb crops. The nematode usually enters the bulb from the soil in the region of the neck (MAFF/ADAS, 1980). On infested plants the leaves are short, pale and often distorted with small local swellings or spickels containing nematodes (Rees, 1992). In more severe cases the spickels may be large and show brown areas of dead tissue in the centre (MAFF/ADAS, 1980). Bulbs are soft and when cut across show characteristic brown rings (Rees, 1992).

Hot water treatment is a method for controlling nematodes and other pests and takes place after lifting normally every 2 years. Of the stem and bulb nematode there are two races known to infest narcissus bulbs; the narcissus race commercially very important in both eastern and south-west England, and the tulip race occurring mainly in eastern England (MAFF/ADAS, 1980).

Other nematodes are generally of lesser importance, but can in individual crops cause serious problems. Leaf and bud nematode, *Aphalenchoides ssp.* occurs in glasshouse plants (Rees, 1992).

Migratory nematodes (including root lesion nematodes) of the genera *Longidorus*, *Trichodorus*, *Xiphinema* and *Pratylenchus* can be important in light sandy soils (Rees, 1992). All, except the

last, are also virus-vectors.

Flies

There are three species of narcissus fly in Britain; The large narcissus fly, *Merodon equestris* and the two small narcissus flies, *Eumerus strigatus* and *E. tuberculatus* (Rees, 1992). The large narcissus fly, 13mm long and looking like a small bumble bee, is the most important. It is a major pest of narcissus, especially in south-west England (MAFF/ADAS, 1981). The small flies are about 6mm long and can be found in a wide range of plants (MAFF/ADAS, 1981).

The large fly is a primary pest, it attacks healthy bulbs, whereas the small flies usually attack damaged bulbs only (MAFF/ADAS, 1981). To distinguish both; in an attack by the large fly there is a single maggot feeding in the centre of an otherwise undamaged bulb, while maggots of the small flies are found in groups in rotting bulbs (MAFF/ADAS, 1981).

Large bulbs infested by the large fly often survive, but have leaves only on one side (Rees, 1992), and no flowers as the flowers have been eaten. The large fly produces one generation each year, while the small flies can produce two generations each year (MAFF/ADAS, 1981).

The best method to prevent attack by the narcissus fly is to treat the bulb with a persistent insecticide before or at planting (MAFF/ADAS, 1981). Aldrin has been used over the last 30 years, but after the last year's banning, the pest has become a real problem to the narcissus bulb industry (Tones, 1990). In future control of large narcissus fly will probably depend on the use of precisely timed mid-season insecticide treatment. This possibly preceded by pre-planting treatment with chlorpyrifos to prevent first year damage (Tones, 1990).

H.w.t. was originally introduced to control the large narcissus fly (MAFF/ADAS, 1980). The maggot in the bulbs will

be killed after one hours treatment at 43.5 or 44.5° C, but the three hour treatment is required to kill nematodes (MAFF/ADAS, 1981). H.w.t. must be used immediately after lifting to kill the larvae before significant damage is caused(Tones, 1990). Freedom from narcissus fly in imported bulbs is a requirement of several overseas countries (MAFF/ADAS, 1981).

Aphids

Aphids are an important vector of virus transmission, even if the plants are not colonised (Rees, 1992).

Caterpillars

Caterpillars are not generally important pests on narcissus, but the garden swift moth, *Hepialus lupulinus*, has narcissus as one of its food sources. Its larvae can seriously damage the roots and storage organs (Rees, 1992).

Mites

Tarsonemid mite or bulb scale mite, *Steneotarsonemus laticeps* (Rees, 1992), spoils the appearance of the bulb, but is not a major problem. It can though be troublesome in forced bulbs when the population can increase rapidly in the ideal warm conditions. The tiny mites live and multiply rapidly in the space between the scales in the neck of the bulb. Their feeding results in a saw-edged appearance to the leaf edges and the flower buds can be killed. It can be controlled by h.w.t., but the flowers can get damaged by this treatment. Forced bulbs can be drenched with dilute acaricide immediately after boxing (Rees, 1992).

The bulb mite, *Rhizoglyphus .ssp*, is a secondary pest which increases the original damage, even as much as to kill the storage organ (Rees, 1992)

(To be continued)

R. H.S. Gold medal for Trade Displays
Engleheart Cup - 1985, 1986, 1990 and 1993
American Hybridisers Trophy - 1988, 1991, 1992 and 1993

Brian Duncan

NOVELTY AND EXHIBITION DAFFODILS

Gold Medal quality bulbs
Direct from the raiser

Consistent exhibition varieties
Distinct Garden Daffodils
More than 300 varieties

Many major awards worldwide

For colour catalogue please send £1

Brian Duncan

“Knowehead” - 15 Ballynahatty Road - Omagh
Co. Tyrone - N. Ireland - BT78 1PN

Telephone 01662 - 242931

Fax 01662 - 242931