



RHS Plant Trials and Awards

Delphinium

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RHS Trials of *Delphinium*

Delphiniums, named by ancient Greeks for the shape of the developing buds which are reminiscent of dolphins, are highly decorative structural perennials worthy of their place in any mixed border. They are easy to grow and available in a broad palette, from white and cream, through shades of pink and every possible hue of blue and purple. Previously dubbed 'Queen of the Border', the title continues to be well deserved.

Background

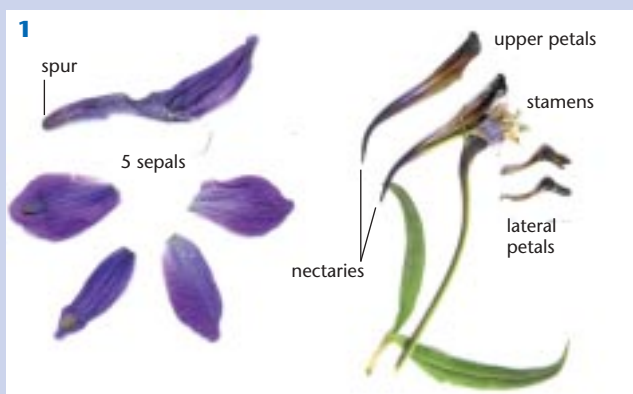
The majority of entries in trial are *Delphinium elatum* hybrids, the remainder being belladonna hybrids. Victor Lemoine produced the initial *D. elatum* cultivars by hybridisation in France, during the middle of the 19th century. Plants were brought to England by James Kelway in 1859, further development continuing until the late 1920's. Charles Langdon in partnership with John Blackmore, ran breeding programmes from early to mid 20th century and their nursery continues to be the major source of delphiniums. Dedicated amateur growers have done much of the more recent work of hybridisation in this country, from the 1970s to the present day, and as such are the source of new additions to ongoing RHS trials.

Delphinium flower structure

Most delphiniums cultivated in gardens have their flowers arranged in a raceme or spike composed of many individual florets. A number of secondary flowering sidespikes generally develop from leaf joints below the main bloom and extend the flowering period.

Floret structure

The individual floret of a cultivated delphinium shares common structural features with the floret of its wild ancestor. This can be seen in *Delphinium elatum*, a plant of the European Alps, generally considered to be one of the species from which garden delphiniums are derived. As seen in the picture, the components that make the flowers so colourful are the five sepals. Two pairs of petals form the eye at the centre of the floret and commonly differ in colour from the sepals. The upper petals extend behind the flower into nectaries that fit side by side inside the characteristic spur of the uppermost sepal. A typical wild delphinium flower like this, with five coloured sepals is said to be single.



Belladonna delphiniums

This group of plants in the trial have single flowers with the simple structure shown (1). They are thought to originate from hybrids between cultivated garden delphiniums and cultivated forms of *D. grandiflorum* with single flowers. The first belladonna delphiniums were sterile but this is not always true of cultivars now included in the group. They tend to have a highly branched inflorescence, with the sidespikes comparable in importance to the primary raceme. This structure results in floriferous plants suitable for garden display. These plants also readily develop a second set of flower stems and flower again in late summer.

Elatum hybrids

Most delphiniums included in the trials are selected clones of cultivated delphiniums that are of hybrid origin, the most important ancestor probably being *D. elatum*. Such elatum hybrids have been selected over many generations for desirable flower characteristics (2).



The plants tend to be larger and have more flowers than their wild ancestors, the result of being tetraploid, having twice as many chromosomes as their diploid ancestors. Also the individual floret normally has increased numbers of each characteristic component, usually having two layers of coloured sepals, an outer set of five and an inner set of eight. Such a flower is said to be semi-double (3).



The eye also has extra petals and the nectaries are often exposed in the face of the flower rather than being hidden in the sepal spur (4).





D. 'Susan Edmunds'

Some cultivars have double flowers with even more coloured bracts and often no clear distinction between sepals and petals, so that the flowers are eyeless. Such flowers may be sterile. (above)

Delphinium trials have been in progress at RHS Garden Wisley since 1916 (the first having over 200 entries), becoming an established feature from 1925. A new trial is planted every year, plants remaining in the ground for two years. After the trial they are lifted, overwintered and propagated from cuttings in readiness for replanting as necessary. New entries are supplied free of charge by their raisers/growers, who provide five young plants. The trial is judged during the second year when plants have been given time to become established and produce a good floral display. (below)



Objectives

The aim is to compare and demonstrate a range of cultivars submitted by individuals and nursery people following preliminary examination by the Delphinium Committee, who ultimately assess their value for garden decoration. Those meeting the required standard receive the RHS Award of Garden Merit {AGM} and are included in every trial as standards for reference, whilst the remainder are undergoing assessment.

Assessment of cultivars for the AGM

Delphiniums in the trial are hardy herbaceous perennials and the Committee therefore considers that cultivars worthy of the AGM should survive and give a good display in the garden for several years. This aspect is not directly tested by the trial because the plants are grown as biennials and are assessed in the second year, when they are mature and should be growing most vigorously. To ensure that AGM cultivars at least perform consistently despite variations in weather conditions from year to year, entries in the trial are awarded an AGM only if they have been judged to be of the required standard in three seasons, although not necessarily in consecutive years.

Criteria

Elatum hybrids

Entries are judged when their flowers are well developed and the following points are considered:

- A plant should have a substantial number of sturdy flowering stems of uniformly good quality, each with a primary bloom proportionate in size to the height of the plant and several sturdy sidespikes. Ideally, the blooms should be at least half the total height.
- Flowers should be of good quality and colour, semi-double or double. Florets should be arranged regularly along the stem and be of a size proportionate to the bloom. The sepals of florets should be of good substance with clear colours not unduly subject to fading or spotting. Semi-double florets should have a compact eye.
- Flowers should last well. Florets should not drop to pieces before blooms are near full development. Stems should be tough enough to support the flowers during wet weather and the plants should not be excessively tall.
- Plants should not show signs of disease, e.g. undue susceptibility to mildew or indication of virus infection.

Belladonna delphiniums

Similar criteria apply for *Belladonna* Group cultivars with single flowers, although greater attention is given to the extent of stem branching in view of the smaller primary bloom. The extent of repeat flowering is also inspected.

Other considerations

Ease of propagation, perenniality and availability of the cultivar are discussed following inspection. Personal experience of panel members in growing a cultivar is taken into consideration.

Award of Garden Merit Delphiniums



	Cultivar	AGM	Floret colour	Eye colour	Flower season	Ht cm	Spike length	Supplier
1	<i>D.</i> 'Constance Rivett'	1998	white	white	mid	135	70	1 & 3
2	<i>D.</i> 'Elizabeth Cook'	2000	white	white	mid	165	75	2
3	<i>D.</i> 'Olive Poppleton'	2000	white	honey	mid	180	85	1 & 3
4	<i>D.</i> 'Sandpiper'	1993	white	brown	mid	150	75	1
5	<i>D.</i> 'Atholl'	2001	white	dark brown	mid	205	110	2
6	<i>D.</i> 'Lilian Bassett'	1995	white	black	mid	145	75	2
7	<i>D.</i> 'Celebration'	2003	pale cream	brown	mid	220	65	1
8	<i>D.</i> 'Sungleam'	1993	cream	pale yellow	mid	190	55	1 & 3
9	<i>D.</i> 'Sunkissed'	2000	pale yellow	yellow	mid	170	80	2
10	<i>D.</i> 'Claire'	1998	pale pink	fawn	mid	140	55	3
11	<i>D.</i> 'Summerfield Miranda'	1994	pale pink	pale brown	mid	180	85	2
12	<i>D.</i> 'Our Deb'	1996	pale pink light purple	brown, streaked	mid	175	85	2 & 3
13	<i>D.</i> 'Cherub'	2001	pink/mauve	white	mid	220	60	1 & 3
14	<i>D.</i> 'Langdon's Royal Flush'	1993	magenta pink	white	mid	200	75	1
15	<i>D.</i> 'Rosemary Brock'	1993	magenta pink	dark brown	mid	170	75	1
16	<i>D.</i> 'Lucia Sahin'	2001	deep pink	dark brown	mid	200	90	2 & 3
17	<i>D.</i> 'Conspicuous'	1993	pale mauve & blue	brown	mid	150	85	1
18	<i>D.</i> 'Walton Gemstone'	1996	pale lavender	white	mid	190	85	1
19	<i>D.</i> 'Emily Hawkins'	1993	mauve	fawn	mid	220	80	2 & 3
20	<i>D.</i> 'Gillian Dallas'	1993	blue violet	white, violet flecks	mid	210	90	1 & 2



Early flowering from mid-May to 7th June
Mid from 7th June to 30th June
Late July

B = Belladonna Group

Suppliers

- 1** Blackmore and Langdon, Stanton Nurseries, Pensford, Bristol BS39 4JL
- 2** John Barrington, Newport Mills Nursery, Wrantage, Taunton, Somerset TA3 6DJ
- 3** Rougham Hall Nurseries, Ipswich Road, Rougham, Bury St Edmunds, Suffolk IP30 9LZ
- 4** Widely available, see *RHS Plant Finder*



	Cultivar	AGM	Floret colour	Eye colour	Flower season	Ht cm	Spike length	Supplier
21	<i>D.</i> 'Min'	1994	blue lavender	dark brown	mid	160	105	1 & 3
22	<i>D.</i> 'Oliver'	1998	blue & mauve	black	early	150	90	2
23	<i>D.</i> 'Tiddles'	1993	greyed violet	near double	mid	180	90	1
24	<i>D.</i> 'Spindrift'	1993	blue/mauve/ green	white	early	150	90	1
25	<i>D.</i> 'Blue Dawn'	1993	pale blue	dark brown	mid	240	125	1
26	<i>D.</i> 'Loch Leven'	1993	pale blue	white	early	150	80	1
27	<i>D.</i> 'Lord Butler'	1993	blue	white	mid	150	75	1
28	<i>D.</i> 'David Mannion'	2003	bright gentian blue	black	mid	155	80	3
29	<i>D.</i> 'Fenella'	1993	gentian blue	black	mid	165	90	1 & 3
30	<i>D.</i> 'Langdon's Pandora'	2003	mid blue	black, blue striped	mid	240	100	1
31	<i>D.</i> 'Faust'	1993	dark blue	black	mid	220	110	1 & 3
32	<i>D.</i> 'Galileo'	2002	violet blue	brown black	mid	180	80	2
33	<i>D.</i> 'Blue Nile'	1993	dark blue	white	mid	180	85	1 & 3
34	<i>D.</i> 'Völkerfrieden' B	2003	dark blue	purple	early	165	45	4
35	<i>D.</i> 'Atlantis' B	2000	violet blue	blue/white	early	140	65	4
36	<i>D.</i> 'Can-can'	1999	purple and blue	double	mid	190	75	2 & 3
37	<i>D.</i> 'Cassius'	1996	dark blue & purple	brownish black	late	200	80	1
38	<i>D.</i> 'Giotto'	1993	purple & dark blue	light brown	mid	170	80	2
39	<i>D.</i> 'Bruce'	1993	deep violet	dark brown	mid	210	95	1 & 3
40	<i>D.</i> 'Michael Ayres'	1998	purple	brown	early	180	80	1 & 3



Background information

New entries and developments

There are three entries of particular interest in the 2004 trial. The first is *Delphinium* 'Susan Edmunds' which bears large, fully double blooms. It was brought to Wisley by Mr Edmunds, an RHS member, and exhibited to the Delphinium Committee as an unusual self-sown seedling which had appeared in his garden. Two plants were pre-assessed and proved so good that the cultivar was subsequently included in trial. It has since been taken to Holland, micropropagated and is available from Thompson and Morgan through their mail order catalogue. The second is *D.* 'Tiger Eye' which has beautiful florets with a very unusual patterned eye. Finally, *D.* 'Liz Pelling', raised and introduced by Ronnie Watts (Associate of Honour RHS, committee member and current President of the Delphinium Society), is an attractively coloured fully double cultivar, in the style of its famous parent *D.* 'Alice Artindale', much loved by flower arrangers and gardeners.



D. 'Tiger Eye'



D. 'Liz Pelling'

A number of named delphiniums propagated from cuttings and protected by Plant Breeders' Rights are to undergo preliminary assessment by the Committee in 2004 as they are becoming increasingly available from garden centres. These include *D.* 'Coral Sunset', *D.* 'Darwin's Blue Indulgence', *D.* 'Darwin's Pink Indulgence', *D.* 'Delft Blue', *D.* 'La Bohème', *D.* 'Merel', *D.* 'Purple Ruffles', *D.* 'Sarita', *D.* 'West End Blue' and *D.* 'Wishful Thinking'.

Cultivation

Delphiniums enjoy a sunny open situation, in well-drained soil, which has been prepared by adding well-rotted compost and general fertiliser such as blood fish and bone or 'Growmore'. Spring is the best time for planting, watering in thoroughly and then subsequently at regular intervals, particularly during hot weather. Established plants benefit from an annual top dressing of a general fertiliser and mulching helps to reduce water loss. Staking is recommended using commercially available supports or canes, three per plant, with garden string creating a cage to reduce weather damage. Avoid tying spikes directly to the cane as this may well result in blooms being snapped off.

Pests and diseases

Powdery mildew can be a problem, purple-flowered cultivars being most susceptible. It is encouraged when plants are planted too closely together reducing satisfactory airflow, particularly in hot, dry weather. It is inevitably intensified in trial situations where there is a concentration of one species. Use of a systemic fungicide is recommended before buds break.

Propagation

Ashley Ramsbottom, Research and Propagation Supervisor, RHS Garden Wisley



Cuttings

The technique described has been developed at Wisley since the 1980s to produce delphiniums for trial. Cuttings can be taken from garden plants when the young growth is 7-10cm long, usually between March and April. Alternatively plants can be lifted in January, potted into moist peat and forced into early growth at 14°C. One-year-old potted plants give the best cuttings, appearing after 14 days.

- 1 Choose clear white, firm shoots, 7-10cm long; remove as close to the crown as possible avoiding hollow or blackened material which would probably rot.
- 2 Clean the cut, removing all soil with a soft brush and water. Remove lower leaves retaining the tip and one leaf.
- 3 Dip into fungicide, using an appropriate one recommended by your garden centre.
- 4 Transfer to 12.5cm half pots half-filled with perlite.
- 5 Place pots in a tray so that their base sits in water.
- 6 Maintain at 14°C in a well-lit position out of direct sunlight.
- 7 Cuttings taken in January will take 4-6 weeks to root, those in March less than 4 weeks. Check regularly removing any damaged material.
- 8 When rooted, pot on into 9cm pots, using John Innes No.2 with 10% perlite, placing them high and firm and kept on the dry side until roots are well established, after which plants should be stopped to encourage breaking from the base.
- 9 Harden off and plant out in May.

It is important to look for pests and diseases at all stages of propagation including root rot which can affect stock plants, mildew, red spider mite, caterpillars, snails and slugs and any indication of virus showing as stunted or deformed plants.



Prepared cutting



Cuttings in perlite



Rooted cutting

Seed

- 1 Sow in late January on the surface of proprietary seed compost, cover with black polythene and maintain at 16°C.
- 2 After 10 days, when germination has started, remove polythene and cover seed with fine vermiculite.
- 3 When big enough to handle, prick off into 9cm pots.
- 4 Harden off gradually, plant out in May or early June.

Division

Plants can also be lifted from the border in March to April and divided using a sharp knife. Washing the crown will help to expose any areas of rot, which should be discarded, healthy pieces can then be collected by making downward cuts. However this is generally thought to be less successful than propagation by cuttings, which helps to reduce effects of disease.

Use of delphinium in the garden

David Jewell, *Floral Ornamental Superintendent, RHS Garden Wisley*

During early to mid summer delphiniums earn their place within garden borders, particularly when surrounded by herbaceous perennials. Fertile soil, good drainage and correct nutrition are all important; so too is staking, which is crucial. It should be unobtrusive, providing good support, yet allow long stems to flex and move with the wind. Careful placement is also required so that as the first main flush of flowers fade, surrounding perennials e.g. *Phlox*, can act as a 'follow on' and avoid creating gaps amongst the plantings.



Delphiniums offer height and command attention as the eye is drawn towards them. They are very effective as individual or repeat accent plantings. At Wisley the pale blue *D. 'Blue Dawn'* is glorious against a billowing mass of white *Crambe cordifolia* flowers. Nearby a more subtle association can be seen, with the softer blue *D. 'Lord Butler'*, *Eryngium × tripartitum* and the glaucous foliage of *Crambe maritima*.

Stronger flower colours associate well with the dark deep blue *D. 'Faust'*, for example the yellow of *Lysimachia punctata* and red *Persicaria amplexicaulis* 'Blotau'.

The plant associations may vary or change but the delphinium will always remain an aristocrat on the garden scene.

Delphinium Committee

Responsible for assessing and judging the trials, the Delphinium Committee is made up of plantsmen, nurserymen, experts and enthusiastic amateurs who give their time voluntarily to promote garden plants for gardeners. It includes representatives of the RHS and The Delphinium Society.



Chairman: Les Cooper

Vice Chairman: David Bassett

RHS Representatives:

Ian Butterfield	Roger Holland
John Langdon	Rosemary Langdon
Duncan McGlashan	David Penny
Clive Rowe	Kees Sahin
Graham Talbot	Ronnie Watts
Maurice Woodfield	

Delphinium Society Representatives

Shirley Bassett	Allan Cook
Ray Joslyn	John Thirkell
John Tombleson	

Secretary: Susan Grayer

Registration of delphinium cultivar names

The Royal Horticultural Society is the International Cultivar Registration Authority (ICRA) for delphiniums. It is recommended that all new cultivars are registered and no award for any delphinium cultivar can be confirmed unless the cultivar name has been accepted by the ICRA. Forms may be obtained from: Dr Alan Leslie, Principal Registrar, RHS Garden, Wisley, Woking, Surrey GU23 6QB

Acknowledgements

Photographs by Dr D Bassett and Graham Titchmarsh (Herbarium Photographic Records, © Royal Horticultural Society).

Dr David Bassett a Lecturer in Chemistry at Imperial College until retirement, has been an active grower of delphiniums since 1965. He joined the Delphinium Society in 1967 after visiting the RHS Westminster shows on his way home from work. Ronald Parrett's book on delphiniums encouraged him to begin hybridising delphiniums and the violet florets and fawn eye of *D. 'New Zealand'* provided an objective. *D. 'Emily Hawkins'* was the first result, being introduced in 1980, and was followed by a number of other cultivars, including the dusky pinks *D. 'Rosemary Brock'* and *D. 'Summerfield Miranda'*, which have an AGM. David has been a member of the Delphinium Committee since 1982.



Dr David Bassett



Wendy Wesley, Trials Recorder

Further reading and information

Booth, P. (ed) (2003) *The Delphinium Garden*. The Delphinium Society. Available from the RHS Bookshop 01483 211320.

Delphinium membership enquiries should be addressed to the Membership Secretary, Mrs S E Bassett, Summerfield, Church Road, Biddestone, Chippenham, Wiltshire SN14 7DP.

The Royal Horticultural Society

The RHS is the UK's leading gardening charity dedicated to advancing horticulture and promoting good gardening. Its charitable work includes providing expert advice and information, advancing horticulture, training the next generation of gardeners, helping school children learn about plants, and conducting research into plants, pests and environmental issues affecting gardeners. The RHS AGM plant trial scheme is an important part of this work.

The RHS receives no government grants and for every pound received from members' subscriptions we need to raise more than twice as much again to fund our charitable work. We also rely on donations and sponsorship to supplement income from our garden operations, flower shows, shops and plant centres.

RHS Plant Trials

With so many different types of gardener and so many different cultivars available to them in each group of plants, it is important that a system of recommendation is in place to help with selection at point of sale. These recommendations must be clear and reliable to ensure that of the thousands of plants available in the UK, a proportion are known to be excellent garden plants. The RHS provides this information through its extensive programme of plant trials held at RHS gardens in the UK. The RHS Award of Garden Merit (AGM) signifies the selection of the best cultivar for general garden use.

RHS plant trials serve the professional gardener who wants to know the range of plants available, including the latest breeding and selection programmes, with their distinctive characteristics and provenance. They also serve the amateur who wants to know which plants will grow and perform well in a particular garden situation.

The RHS has an unrivalled resource of knowledge and expertise and is therefore best placed to conduct plant trials for the UK gardening market.

RHS Bulletins

Spiraea japonica (with coloured leaves): November 2003

Canna: September 2003

Lavender (hardy): July 2003

Potentilla (shrubby): July 2002

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