

The NATIONAL
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The American Horticultural Society

A Union of The National Horticultural Society and The American Horticultural Society, at Washington, D. C. Devoted to the popularizing of all phases of Horticulture: Ornamental Gardening, including Landscape Gardening and Amateur Flower Gardening; Professional Flower Gardening or Floriculture; Vegetable Gardening; Fruit Growing and all activities allied with Horticulture.

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A Lilac Check List

BY JOHN C. WISTER

With the increasing interest in good lilacs, many gardeners should be interested in a list giving the correct names of all that have been introduced into commerce, with the name of the originator and the date of introduction. In general form and make up, this list follows the list of iris names that was prepared for The American Iris Society and for Standardized Plant Names some years ago. The correct name of all lilacs in commerce is given in capitals and any synonyms or obsolete names are given in smaller type. To those who know only the old purple lilac, a list as long as this may seem amazing but to many who have struggled with catalogues this list should be a great help in checking up the names and in correcting any misspellings. It should help the uninitiated to know which varieties are at present worth while for garden culture and which are not.

According to the Arnold Arboretum, the wild type of the common lilac, *Syringa vulgaris*, is found in the mountains of Bulgaria and reached Western Europe from Constantinople

about 1560. Other authorities say it occurs wild in parts of Eastern Europe from Hungary to Bulgaria extending eastward to the Caucasus, Persia and Afghanistan. Its name is doubtless a corruption of the Persian name, "Lilag." Loudon states that it probably reached England before the time of Henry VIII (1491-1547) and quotes an inventory of the articles in the gardens of the Palace of Nonsuch taken later by Cromwell (1599-1658) in which are mentioned "6 lilacs, trees which have no fruit but only a pleasant smell." It is easy to see that it at once became a very popular plant in Europe. It came to this country early in the 17th Century, brought by the early settlers who loved plants enough to give it room on the crowded sailing vessels.

In those days it was commonly propagated by merely digging up young suckers that came up about the base and by this method it was spread all over the early settlements of New England and the Middle States. In many of the districts in northern New England that were once prosperous

farming communities but which have now been abandoned and gone back to forests, these lilacs are still to be found growing near old cellar holes. Some of them have survived for a hundred years or more without the care of man, blooming freely. In the colder localities, it is noticed that they do not grow very tall. As commonly seen in the back woods of Maine, New Hampshire, Vermont and the Province of Quebec, they form solid masses 20 to 30 feet across but not over 5 to 6 feet high. In more favored locations where the growing season is longer and the soil better, old plants of great height are to be found, the stems sometimes as large as tree trunks, a foot or more in diameter, the plants still blooming freely but only at the top.

It is interesting to note that the form of the common lilac as found in these old abandoned gardens is not the wild form from Bulgaria but a selected variety of it, showing that even hundreds of years ago gardeners grew lilacs from seed and selected the ones that they liked best. No records are available as to when this was first done but it must have been as early as 1600 or 1650. Indeed we have no records available as to when the selection of named forms began, as all the records that the old gardeners have left us have been of the purple lilac and its white form. The earliest notation that I have been able to find of a double variety is of the form "Liberti" raised by a nurseryman, Libert Daminont, in Liege, Belgium in 1843. It seems reasonably certain that he had a number of named forms to work upon and it seems to be fairly well established that this variety Liberti was one of the first used by Lemoine when he began his crossing in 1870, and that he crossed it with *Syringa oblata* and other types.

An American author writing in 1866 states that "some beautiful new varieties have been imported within a few years, producing immense clusters of flowers. There is one variety with

double flowers but it is not an improvement." (Breck: New Book of Flowers, p. 473.)

Lemoine, therefore, was not the first to improve the lilac, and there were probably available in the French nurseries of that period 25 or 50 named varieties of lilacs. We have many records of the names but few authentic records of the plants being preserved.

Of the many hundreds of varieties introduced in the last century it is obvious that the great majority are mere duplications and are not needed. Most of the earlier ones have been superceded by newer sorts. There are, of course, exceptions to this and some of the oldest varieties are still among the best, but in general the progress has been very great and very rapid and those gardeners who do not know the modern forms have great treats in store for them. It will be noted that while the list is large, most of the best varieties are recent introductions of Lemoine. Mr. T. A. Havemeyer, one of the greatest lilac authorities in this country, has stated that the lilacs of all other breeders could be dispensed with, without much loss, if we could keep the Lemoine varieties. While he himself would probably make exceptions to this generalization, certainly the few conspicuous examples like Spaeth's famous variety "Ludwig Spaeth," Morel's "Mme. F. Morel," and Baltet's "Bleuâtre" make his statement seem much stronger. The Lemoine work begun about 1870, when there were but a few inferior sorts to work on, seems the more wonderful the more the lilacs are studied.

In addition to all the improvements upon the common lilac itself, the season has been greatly lengthened, first by the addition of the *Givaldi* hybrids of Lemoine of which Lamartine and Berryer are well known examples and which bloom from ten days to two weeks ahead of the common lilac; secondly, by the intermediate group of varieties like Ronsard; and thirdly, by the large number of double varie-

ties which are rather late and which hold their beauty longer than the single types of the main season. There are also a few varieties recommended for their extreme lateness.

In color the lilac now covers a very wide range from white through the palest azure blues to almost deep violet, then from the color of common lilac to deep purples and to reddish magentas and to lilac pinks. There is also a great range of form, for beside the small single flowers of the type, there are many new single varieties in which the individual flowers are very large and occur in very large thyrses. Then there are the semi-double flowers and full doubles, with the forms of the truss varying from long spikes to branched forms that are almost as wide as they are long. Many of the varieties show more than one color. The buds, for example, may be a deep red and the open flower pink, or the open flower may have a whitish center or eye which contrasts sharply with the darker petal color and the still darker reverse.

Another merit of the named sorts is that they bloom when the plants are quite young instead of waiting many years as is often the case with the common sort and its white form.

The delicious fragrance which is part of the essential charm of the plant has not been lost in the improved kinds as has happened in so many plants that have been highly developed after introduction to gardens.

The example of the early settlers who planted lilacs around their door-yards has been continued for many years and is still an ideal to be followed. The plant combines well with other familiar shrubs like the large Bush Honeysuckles and Mock Oranges or the small trees like the flowering Crab Apples. For under planting nothing is better than late flowering tulips especially those of a purple or lilac color like the Darwin, Erguste, which harmonizes well with most lilacs and when cut is charming—arranged with them in great bowls or

vases. Those who care particularly for color combinations can work out endless variations of color harmonies and contrasts with tulips and lilacs. Fine white lilacs like Vestale or Miss Willmott are delightful with the deep purple Louis XIV or the deep maroon La Tulipe Noire. They also combine well with *Iris kochi* or Purple King and with the blue *Scilla campanulata* and its varieties Excelsior and Blue King.

Lilacs may be increased by suckers, seeds, cutting, buds and grafts. The last three are commonly employed in commercial nursery practice. Cuttings can be struck from half ripened wood taken in mid or late June, but this method is expensive because it uses a good deal of wood and because there is a great loss as the plants do not make roots rapidly. The young plants from this propagation do not grow rapidly and so few nurseries now use this method. People who insist upon this type of own rooted plants must therefore expect to pay more and get smaller sizes.

The European nurseries for many years grafted named lilacs on lilac seedlings. This practice produced good plants but they are open to the very serious objection that any sucker which may come from the seedling stock can not be distinguished from the shoots of the named variety. Whatever theoretical points may be in its favor the practical results are that after a few years in most gardens the named variety disappears and nothing but the seedling stock remains. All gardeners should be warned against such plants.

The common American practice to-day is to bud or graft on privet stock. Many objections to this have been raised but the fact remains that it is a very practical method and cheap, and that it is free from the objection to the use of lilac stock in that suckers can readily be distinguished. As a matter of fact if properly done the privet becomes only a temporary stock for if the plant is set deeply, that is 3 to 6 inches deeper than the union, the lilac will make roots of its own and the

privet stock will be starved out. Plants grown by this method are now available in American nurseries and if a little care is taken in the beginning, they should never give any trouble from suckers. Many of the so-called own root plants that have been offered for sale in the past were originally propagated in this way and by deep planting established on their own roots in the nursery before sale.

Grafting is done during the winter, the plants stored in cellars till spring and then planted out. Like growing from cuttings, this method is extravagant in the amount of wood that is required from the mother plant as a scion of the proper length may have from 4 to 6 buds. Budding is done in late summer and only one bud is necessary to make a plant. This stays dormant until the following spring when a strong growth of from 2 to 4 feet can be expected. The grafted plant not only has to accept the new top but has to reestablish its roots after the lifting and winter storing and naturally can not produce as much growth in the first season. Where rapid growth is not essential, lilac scions can be grafted on privet cuttings instead of privet plants and while the first year's growth may be small it is larger than that of ordinary cutting. Some old garden books state that shield budding can be practiced just as growth starts in the spring but I know of no one who has tried this.

There has been a great shortage of named lilacs in this country since Quarantine 37 shut off general importations in 1919, but the American nurserymen have been propagating plants rapidly and undoubtedly most of the fine varieties will be available within the next few years. With this increase in supply we may expect a decrease in the present prices, which range from one to six dollars a plant for young plants. Any decrease in these prices should sharply stimulate demand. In buying it is well to remember that the cheapest plants are not always the best, and that it is

better to get a few good plants from the nearest reliable nurseryman or lilac specialist than it is to send long distances to unknown dealers merely because the price is less. Vigor and trueness to name are always worth paying for.

The common lilac is such a well known garden plant all over this country that people planting the named varieties have usually given them the same careless planting and after care. The best lilac flowers can not be grown on starved plants. Good soil and liberal quantities of fertilizers are necessary. Generous watering in dry seasons is very beneficial and may overcome the tendency to bear large crops of flowers only every other year. The very sparse blooming of lilacs near Philadelphia in the spring of 1925 was generally attributed to the dry June and July of 1924. A few generous waterings at that time might have insured a good crop of flowers.

While most of the named varieties are not as tall growers as the common lilac, they are strong and satisfactory under proper conditions. They vary greatly, however, in this respect. For example, Marie Legraye while strong and healthy is always a comparatively dwarf variety. A few of the most beautiful ones are notoriously weak in growth. For this reason Danton, Pasteur and Vesuve are three that should not be recommended generally. The specialist will always want Vesuve because it is probably the darkest purple of all. It will be a problem for some future breeder to produce flowers as fine as these on better plants. It is encouraging to note that Lemoine's *Giraldi* hybrids like *Lamar-tine* will produce in five years as large a plant as *Syringa vulgaris* will produce in ten.

After careful planting, fertilization and watering, it is necessary, as with almost all plants nowadays, to guard against pests. The Lilac Borer is the most serious and if the plants are allowed to grow with only one or two

main stems the borer will often kill them before it is noticed that it is at work. The plants should be examined carefully in May and June and again in November and the borers cut out with a knife or killed with a wire, or the holes plugged and the burrows filled with carbon bisulphide. The grower who encourages many strong canes from the base of the lilac (the habit of suckering, by the way, varies with the variety) need not weep if the borer takes one or two stems because there are always others to replace those lost. In regions where the Leopard Moth is abundant, the lilac is attacked by its larva, another borer which may be treated in the same way. The latter, however, is more likely to attack young wood than main trunks.

Like apples, pears, peaches, roses and other plants, lilacs are likely to be injured by scale. A winter spraying with Scalecide or some other oil-spray, or lime-sulphur is advisable. The leaves are disfigured at times with mildew but this does not seem to do any real harm.

The Bulletins of The Arnold Arboretum state year after year that from a dozen to twenty-five distinct varieties are ample to get the whole range of color and season, but no two people seem able to agree upon such lists. A symposium of opinions such as have been published for the iris and the peony would prove most helpful to the lilac grower and it is to be hoped that some great horticultural society will undertake the task. In the absence of any such dependable guide, I venture to append a list of some of the varieties that seem to me desirable for general planting. To make the list available for quick reference, the names are grouped by colors. It is most distinctly *not* offered as a list of the best, as any such selection is a matter of personal opinion. Recent novelties are not included.

VARIETIES OF COMMON LILAC

(Commonly catalogued as French Lilacs)

Twenty-five Single

White—	Vestale Mont Blanc
Violet—	Cavour De Miribel
Blue—	Bleuâtre Decaisne Pres. Lincoln Ronsard
Bluish lilac—	Gilbert Saturnale Capt. Baltet
Lilac—	<i>vulgaris</i> Marengo
Pinkish Lilac—	Lovaniensis Lucie Baltet Macrostachya
Magenta lilac—	Congo Marceau Mme. F. Morel Mrs. W. E. Marshall Reamur
Purple—	Diderot Ludwig Spaeth Monge Vesuve

Twenty-five Double

White—	Jeanne D'Arc Miss Willmott Edith Cavell
Blue—	Emile Gentil
Bluish lilac—	Pres. Grevy Pres. Viger Leon Gambetta Rene Jarry Desloges
Lilac—	Hippolyte Maringer Jean Mace Pres. Poincaire Massena Henry Martin Victor Lemoine
Pinkish Lilac—	Belle de Nancy Mme. Buchner Montaigne Pres. Fallieres Waldeck Rosseau Thunberg Carmen

Magenta lilac— Paul Thirion
 George Bellaires
 Archeveque
 Purple— Charles Joly

To this collection should be added at least three of the *Giraldi* hybrids, Lamartine, Berryer and Necker; the common Persian Lilac and its cut-leaf form; also a late hybrid like Lutece; and several species like *pubescens*, *villosa* and *japonica*.

The alphabetical check list of varieties which follows is the result of three such lists sent around several years ago to a number of lilac growers with requests for corrections and additions. I must acknowledge particularly the help of M. Lemoine and M. Turbat in France, as well as the very complete lists of varieties found in their catalogues. In this country Mr. Havemeyer and the late Mr. B. H. Farr have helped me greatly. Mr. Havemeyer's article in *The Garden Magazine*, Mr. Dunbar's article in *The Florist's Exchange* and Mr. Blossom's two articles in *Landscape Architecture* have been most freely drawn upon and their help is hereby gratefully acknowledged.

The list contains all the varieties at Rochester and at the Arnold Arboretum as far as it has been possible to obtain them, and all the varieties listed by the more prominent nurseries in Europe and America since 1850.

There are doubtless hundreds of older varieties which have not been included but it is doubtful whether the varieties to-day grown under the old names are the same as those originally introduced. There are, for example, many different forms of "Alba Grandiflora" and with a little knowledge of the nursery practice in Europe in the past century it is easy to conjecture that almost any nursery that had an unusually large white variety gave it the name "Alba Grandiflora."

The list also contains the names of a large number of varieties raised by John Dunbar in Highland Park, Rochester, New York. Most of these are not in commerce and it is not known if they ever will be. A casual inspection of them shows them to be very beautiful and fully comparable to the Lemoine varieties, but it will take a much more thoughtful, deeper study to determine whether any of them are really superior to the Lemoine kinds already in the trade and therefore worthy of adding to our gardens. The one that stands out most prominently in my mind is "Pres. Lincoln," one of the bluest of all lilacs. On account of Mr. Dunbar's severe illness and retirement from active work it has been impossible to get any authentic list from him. The names here given are those published by him in *The Florist's Exchange* over three years ago, supplemented by varieties noted in Rochester.

CHECK LIST OF LILAC NAMES

Abbreviations—Originators

Baltet	Baltet Nursery, Troyes, France.
Baudr.	Baudriller, probably French nurseryman.
Berman	Berman Nursery, Orleans, France.
Bensch	Bensch, probably German nurseryman.
Brahy	Brahy Eckenholm, probably France.
Briot	Briot, probably French nurseryman.
Bruchet	Bruchet, St. Rambere, s/Loire (Loire).
Cochet	Cochet Nursery, Grisy Suisnes (S. and M.), France.
Dun.	John Dunbar, Rochester, N. Y.
Felix	Felix & Dykuis, Boskoop, Holland.
Gouch.	Auguste Gouchault, Orleans, France.

Hav.	T. A. Havemeyer, Glen Head, L. I., N. Y.
Henry	Louis Henry, Museum of Natural History, Paris, France.
Kos.	M. Koster & Co., Boskoop, Holland.
Lem.	V. Lemoine & Fils, Nancy, France.
Lecointe	Lecointe, probably French nurseryman.
Libert	Libert-Daminont, Liege, Belgium.
Makoy	Makoy, probably Belgian nurseryman.
Mathieu	Mathieu, probably French nurseryman.
Morel	Morel Nursery, France.
Pfizer	Pfizer Nursery, Germany.
Simon	Francisque Simon Nursery, Cherbonnieres, Rhone.
Simon-Louis	Simon-Louis, French nurseryman.
Spaeth	Ludwig Spaeth, Berlin, Germany.
Step.	Stepman de Messmaker, 61 Rue des Quatre Vents, Brussels, died before 1924.

Other Abbreviations

D.	Double.
S.	Single.
Sd.	Semi-double.
E. H.	Early Hybrid (<i>affinis giraldi</i> × <i>vulgaris</i>)
L. H.	Late Hybrid.
Ro.	Rothomagensis hybrid (<i>persica</i> × <i>vulgaris</i>)
*	Now in commerce.

After Names	0	Quality	poor
	x		fair
	xx		good
	xxx		very good
	xxxx		excellent
	xxxxx		finest

Accepted variety names in CAPITALS.

Obsolete or doubtful names in CAPITALS AND SMALL CAPITALS.

Species in *italics*.

For notes on the older varieties appearing in this list the reader is referred especially to the following catalogs:

- Baltet Nursery, Troyes, France, 1900.
- Chenault, Leon, Nursery, Orleans, France, 1910.
- Dauvesse Nursery, Orleans, France, 1859-1892.
- Lemoine, V., & Fils, Nancy, France, 1870-1910.
- Leroy, Andre, Angers, France, 1876.
- Oudin Aisne Fils Nursery, Lisieux (Calvados), 1846.
- Spaeth, Ludwig, Nursery, Berlin, Germany, 1885-1890.
- Transon Nursery, Orleans, France, 1876.
- Van Houtte, Louis, Nursery, Belgium, 1867, 1870.

and to: The Florists Exchange, Sept. 22, 1923.

The Garden Magazine, June, 1905, and May, 1917.

Landscape Architecture, April, 1915, October, 1923, and October, 1924.

- ABEL CARRIERE* (Lem. 1897) D. Lilac. 0
ADELAIDE DUNBAR* (Dunbar before 1924) D. very red.
affinis
affinis giraldi
ALBA* (Wild form cult. before 1600) S. white.
ALBA GRANDIFLORA* (Before 1875) S. white. x
ALEX. DE CRONCELS See DE CRONCELS.
ALEX. DE HUMBOLDT See de Humboldt.
ALINE MOCQUERIS* (Orig. in Troyes before 1876.) S. dark red.
ALPHONSE LAVALLEE* (Lem. 1885) S. lilac. 0
AMBROSE VERSCHAFFELTI (before 1870) S. lilac. 0
AMETHYST (Spaeth 1887) S. lilac. x or 0
AMOENA (before 1846) S. blue. 0
amurensis
ANDENKEN AN LUDWIG SPAETH* (Spaeth 1883) Syn. Souv. de Ludwig Spaeth. Syn. Ludwig Spaeth. S. purple. xx
ANNA ELIZABETH JACQUET* (before 1924) S. purple.
ARCHEVEQUE* (Lem. 1923) D. purple. xx
ARTHUR WILLIAM PAUL* (Lem. 1898) D. purple or reddish. 0
AUCUBAEFOLIA* (Gouch. before 1903) Syn. Pres. Grevy foliis variegatis. D. lilac.
AZUREA PLENA See LIBERTI.
BANQUISE* (Lem. 1910 or 1905) D. white. 0
BELLE DE NANCY* (Lem. 1891) D. pink. xx
BERANGER (Simon-Louis before 1870) S. blue lilac. 0
BERRYER* E. H. (Lem. 1913) D. lilac. x
BICOLOR Ro. (Before 1904) S.
BLEUÂTRE* (Baltet before 1897) S. blue. x
BOULE AZUREE* (Lem. 1919) S. bluish.
BOUSSINGAULT* (Lem. 1897) D. magenta. 0
BUFFON* E. H. (Lem. 1921)
*bretschneideri** Syn. Dr. Bretschneider.
CAERULEA SUPERBA (??) S. blue. 0
CAMILLE DE ROHAN See PRINCESS CAMILLE DE ROHAN.
CARMEN* (Lem. 1918) D. pale. xx
CAPITAINE BALTET* (Lem. 1919) S. purple.
CAPITAINE PERRAULT (Lem. 1925) D.
CAROLI See CHARLES X.
CATHERINE BRUCHET* (Bruchet before 1923) Syn. Mme. Catherine Bruchet. D. white. x
(Lem. 1922).
CATINAT* E. H. (Lem. 1910) late S. violet. xxxx
CAVOUR* (??) S. dark lilac.
C. B. VAN NES* (Brahya before 1854) S. purple.
CHARLEMAGNE (Lem. 1894) (or 1893) D. lilac. 0
CHARLES BALTET* (Lem. 1897 or 1896) D. purple reddish. x
CHARLES JOLY* (Lem. 1905) D. lilac. 0
CHARLES SARGENT* (before 1839) Syn. Rubra Major, Syn. Caroli. S. lilac. x or 0
CHARLES X* (Charlet ?)
CHARLET
chinensis

- CHRISTOPHE COLOMBE* (Lem. 1906 or 1905) S. pale lilac late. xxxx
- CLARA COCHET* (Cochet before 1885) S. white. 0
- CLAUD BERNARD* E. H. (Lem. 1915) D. lilac. x
- CLAUDE LORRAINE (Lem. 1890) S. lilac. 0 or x
- COLBERT* (Lem. 1899) D. purple. 0
- COLMARIENSIS (Colmar) See SEN. VOLLAND.
- COMTE ADRIEN DE MONTEBELLE* (Lem. 1910) D. bluish. 0
- COMTE DE KERCHOVE* (Lem. 1899) Syn. Comtesse de Kerchove. D. pink. 0
- COMTE HORACE DE CHOISEUL (Lem. 1887) D. rosy white.
- COMTESSE HORACE DE CHOISEUL* (Lem. 1891) D. lilac. 0
- CONDORCET* (Lem. 1888) D. pink. 0
- CONGO* (Lem. 1897 or 1896) S. red. xx
- CORINNE (Before 1900) S. lilac, narrow petals. 0
- CRAMPEL* (Lem. 1899) S. blue. x
- CROIX DE BRAHY (Brahay before 1854) S. lilac. 0
- DAME BLANCHE* (Lem. 1903) D. white. 0
- DANTON* (Lem. 1911) S. purple, poor grower. 0
- DECAISNE* (Lem. 1910) S. bluish. xxxx
- DE CRONCELS* (Baltet or Baud. before 1876) Syn. Croncels, Syn. Alex. de Croncels, Gloire de Croncels.
- DE HUMBOLDT (Lem. 1892) Syn. Alex. de Humboldt. D. magenta. 0
- DE JUSSIEU* (Lem. 1891) D.
- DE MARLEY See MARLEYENSIS
- DE MIRIBEL* (Lem. 1903) S. deep blue, late. xxxx
- DE SAUSSURE* (Lem. 1903 or 1902) D. purple. 0
- DE TRIANON See Rubra Trianoniana.
- DELEPIN (before 1867) S. lilac.
- DESCARTES* E. H. (Lem. 1916). S. lilac. x
- DEFONTAINES* (Lem. 1907 or 1906) D. blue. 0
- DEUIL D'EMILE GALLÉ (Lem. 1904) D. pink. 0
- DIDEROT* (Lem. 1914 or 1915) S. purple late, poor grower. xxxx
- dilatata*
- DOYEN KETELEER* (Lem. 1895) D. pink. x
- DR. BRETSCHNEIDER* See *bretschneideri*.
- DR. CHARLES JACOB* (Step. before 1920) S. reddish.
- DR. LINDLEY* (Before 1867) S. lilac. 0
- DR. MAILLOT* (Lem. 1895) D. lilac, dumpy truss. 0
- DR. MASTERS* (Lem. 1898) D. blue. 0
- DR. NOBBE* (Before 1867) S. lilac. 0
- DR. TROYANOWSKY* (Lem. 1906) D. lilac. 0
- DR. VON REGEL* (Spaeth 1883) S. lilac. 0
- DUC DE MASSA* (Lem. 1905) D. lilac, late. xxx
- DUBIA See *rothomagensis*.
- DUCHESS D'ORLEANS (Before 1846) S. magenta.
- DUPLEX Ro. (Lem. 1904).
- ECKENHOLME (Brahay before 1854) S. lilac.
- EDMOND ABOUT* (Lem. 1908) D. purple, late. x
- EDMOND BOISSIER* (Lem. 1906) S. blue, late. x

- EDITH CAVELL* (Lem. 1916) D. best cream white, late. xxx
- EDOUARD ANDRE* (Lem. 1900) D. lilac, pink. 0
- EMIL GENTIL* (Lem. 1916 or 1915) D. very blue, late. xxx
- EMILE LEMOINE* (Lem. 1890 or 1889) D. pink. 0
- EMIL LIEBIG* (Spaeth 1887) D. blue. 0
- emodi*
- ERZHERZOG JOHANN (Before 1890) S. lilac. 0
- ETOILE DE MAI* (Lem. 1906) D. pink to purple. 0
- EXIMIA L. H. (??) S. lilac. 0
- FARRION (Farrionensis) (Lem. 1925).
- FLOREAL* L. H. (Lem. 1896) D. lilac.
- FRANCISQUE MOREL* (Spaeth 1883) S. white. x
- FRAU BERTHA DAMMAN* (Spaeth 1887) S. lilac. 0
- FUERST LICHTENSTEIN (*formosissima*) (Lem. 1903) D. pale lilac, late free. x
- GAUDICHAUD (Before 1867) S. pink.
- GEANT DE BATAILLES* (Spaeth) Syn. Consiller Heyder. S. lilac. 0
- GEHEIMRAT HEYDER (Spaeth 1887) S. purple. 0
- GEHEIMRAT SINGLEMANN* (Lem. 1890) S. magenta.
- GENERAL DRUOT (Lem. 1924) D. purple.
- GENERAL PERSHING* (Lem. 1900) D. red, late. x
- GEORGES BELLAIR* S. pale lilac. 0
- GIGANTEA (Lem. 1911) S. lilac. xxx
- GILBERT* See *affinis Giraldi*.
- GIRALDI See DE CRONCELS
- GLOIRE DE CRONCELS (Lem. 1876) S. lilac, late.
- GLOIRE DE LORRAINE* (Before 1867) S. pink. 0
- GLOIRE DE MOULINS (Before 1865) D. lilac pink. 0
- GLOIRE DE LA ROCHELLE* (Before 1890) Syn. Versailles, Versailles.
- GLOIRE DE VERSAILLES* (Lem. 1908) D. bluish.
- GODRON* (Before 1870) S. lilac.
- GOLIATH* (Lem. 1895) D. lilac. 0
- GRAND DUC CONSTANTIN* (Lem. 1898) D. lilac. 0
- GUIZOT* (Lem. 1912-1915) D. lilac. xx
- HENRY MARTIN* (Step. before 1923) S. pink.
- HERMAN EILERS* (Lem. 1909) D. magenta.
- HIPPOLYTE MARINGER* (*hirsuta*) (Kos. before 1923) S. lilac. xxx
- HUGO KOSTER* (Liberti *x oblata*) (Lem. 1878 or 1884). Syn. Hyazinthenflieder; Syn. de Ja-cinth. D. very early purple lilac. 0
- HYACINTHIFLORA PLENA* (Before 1924).
- H. ZABEL* Ro. ? (Lem. 1876) S. bluish. xxx
- JACQUES CALLOT* (Very old) S. purple 0
- JAMES BOOTH* (*japonica*) (Lem. 1915) D. pink. 0
- JEAN BART* (Lem. 1915) D. lilac, late. xx
- JEAN MACE* (Lem. 1902) D. white late. xxx
- JEANNE D'ARC*

- J. DE MESSMAKER* (Step. before 1923) S. Very deep purple.
x or 0
- J. VON TOL (Felix before 1924) S. white. 0
- josikaea**
- JULES FERRY* (Lem. 1907) D. pink. x
- JULES SIMON* (Lem. 1908) D. bluish. x
- julianae*
- JULIEN GERARDIN* (Lem. 1916) D. lilac, too crowded. 0
- JUSTI (Before 1885) S. bluish lilac. 0
- KATHARINE HAVEMEYER* (Lem. 1922) D. pink. x
- KÄTHE HÄRLIN* (Pfitzer before 1915) S. white. xxx
- komarovi**
- komarovi sargentianae**
- LA LORRAINE Ro. (Before 1901.)
- LA MARCK (Lem. 1886) (Syn. La March) D. lilac
pink. x
- LAMARTINE* E. H. (Lem. 1911) S. lilac. xx
- LA MAUVE* (Lem. 1893) D. lilac. 0
- LANGUIS (Makoy before 1872) D. lilac. 0
- LA PLACE* (Lem. 1913) S. purple late. x
- LA TOUR D'AUVERGNE* (Lem. 1888) D. purple or lilac. 0
- LAVOISIER* (Lem. 1915 or 1913) S. pink. 0
- LE CAULOIS* (Lem. 1882) D. lilac. 0
- LEMOINEI FL. PL.* (Lem. 1879) D. lilac or pink. 0
- LE NOTRE* (Lem. 1922) D. lilac purple.
- LEON GAMBETTA* (Lem. 1907) D. pink. x
- LEON MATHIEU* (Step. before 1920) S. lilac. x
- LEON PORTIER (Bruchet)
- LEON SIMON* (Lem. 1890 or 1888) D. pink or lilac. 0
- LEOPOLD II* (Step. before 1922) S. pink. 0
- LE PRINTEMPS* (Lem. 1901) D. pink. x
- LE PROGRESS Ro. (Lem. 1904) D.
- LIBERTI (Libert 1843) Syn. Azurea plena. D.
- LILA ROSA (Before 1887) S. lilac. 0
- LINNE* (Lem. 1890) D. pink. 0
- L'ONCLE TOM* (Lem. 1903) Syn. Uncle Tom. S. pur-
ple. 0
- LOUIS HENRY* (Lem. 1894) D. lilac pink. 0
- LOUIS VAN HOUTTE* (Lem. 1887) (or Spaeth) S. reddish.
- LOUVAINENSIS* (Before 1859) Syn. Lovaniensis. S. pink
lilac. xxx
- LOUVOIS* E. H. (Lem. 1921)
- LUCIENNE BRUCHET (Bruchet) S.
- LUDWIG SPAETH See ANDENKEN AN LUDWIG
SPAETH.
- LUCIE BALTET* (Baltet before 1888) S. very pink xx
- LUTECE* L. H. (Henry 1904)
- MARENGO* (Lem. 1924) S. magenta
- MACROSTACHYA* (Before 1844) Syn. Amoena ?? S.
pink. xxx
- MAGELLAN* (Lem. 1915) D.
- MARC MICHELI* (Lem. 1898) D. lilac. x
- MARCEAU* (Lem. 1913) S. purple. xxx
- MARECHAL DE BASSOMPIERRE* (Lem. 1897) D. lilac or reddish. x

MARECHAL FOCH*	(Lem. 1924) D. lilac. x
MARECHAL LANNES*	(Lem. 1910) D. light purple. x
MARIE FINON*	(Lem. 1923) S.
MARIE GUILLE	(Bruchet) S.
MARIE LEGRAYE*	(Before 1879) S. white. x
MARIE LEGRAYE FOLIIS AUREIS	(Before 1924) S. white, yellow leaves.
MARLEYENSIS	(Before 1839) Syn. de Marley, Rouge de Marley, Rubra de Marley. S. red purple.
MASSENA*	(Lem. 1923) S. magenta.
MATHIEU DE DOMBASLE*	(Lem. 1882) D. lilac mauve. 0
MAURICE BARRES*	(Lem. 1917) S. lilac. xx
MAURICE DE VILMORIN*	(Lem. 1900) Syn. MME. DE VILMORIN. D. lilac. 0
MAXIME CORNU*	(Lem. 1886) D. lilac. 0
MAXIMOWICZ*	(Lem. 1906) D. white. 0
MELIDE LAURENT*	(Lem. 1903) S. lilac. 0
METENSIS Ro.	(Simon-Louis before 1904) D. lilac. x
MICHEL BUCHNER*	(Lem. 1886) D. lilac. x
<i>microphylla</i>	
MILTON*	(Lem. 1910) S. deep violet purple. x
MIRABEAU* E. H.	(Lem. 1914) Sd. pinkish lilac. xx
MIREILLE*	(Lem. 1904) D. magenta or white. 0
MISS ELLEN WILLMOTT*	(Lem. 1907) D. white. xxx
MLLE. FERNANDE VIGER	(LeCointe 1894) Syn. Mme. Viger. S. white. 0
MLLE. LE PAGE	See M. LE PAGE.
MME. ABEL CHATENAY*	(Lem. 1892) D. white, late. 0
MME. ANTOINE BUCHNER*	(Lem. 1909) D. pink. xxx
MME. AUGUSTE GOUCHAULT	(Gouch. 1921) D.
MME. BRIJOT*	(Briot 1877) S. lilac. 0
MME. BRUCHET	See CATHERINE BRUCHET.
MME. CASIMIR PERIER*	(Lem. 1894) D. cream white, late. x
MME. DE MILLER*	(Lem. 1901) D. white. x
MME. FAILIERE	(Bruchet). D.
MME. FLORENT STEPMAN*	(Step.) D. white late. xx
MME. F. MOREL*	(Morel 1892) S. deep lilac, late. xxxxx
MME. HENRI GUILLAUD	(Bruchet) D. pink.
MME. JEANNE CORNU Ro.	(Before 1910)
MME. JULES FINGER*	(Lem. 1887) D. pink. 0
MME. KREUTER	(Lem. 1887) S. lilac. 0
MME. LEMOINE*	(Lem. 1890)
MME. LEON SIMON*	(Lem. 1897) D. white or D. lilac. x
MME. LOUIS HENRY* Ro.	(Before 1910).
MME. MOSER	(Briot before 1877) S. white. 0
MME. R. FOYER* ??	(Before 1924).
MME. VIGER	See MLLE. FERNANDE VIGER.
MME. VILMORIN	See MAURICE DE VILMORIN.
M. LE PAGE	(Lem. 1890) Syn. Mlle. Le Page. S.
M. VAN AERSCHOT	See VAN AERSCHOTT.
MONGE*	(Lem. 1913) S. purple. xxxxx
MONTAIGNE*	(Lem. 1907) D. pink. xxx
MONT BLANC*	(Lem. 1915) S. white. xxxxx
MONTGOLFIER*	(Lem. 1905) S. pink. xx

MONUMENT CARNOT*	(Lem. 1895) D. lilac. x
MRS. EDWARD HARDING*	(Lem. 1922) D. purple red. x
MRS. FELIX*	(Felix ? before 1924) S. white—for forcing.
MRS. W. E. MARSHALL*	(Hav. 1924) S. red. xx
MURILLO*	(Lem. 1901) D. dark purple.
NAUDIN*	(Lem. 1913) D. lilac. x
NECKER* E. H.	(Lem. 1920) S. pink. xxx
NEGRO*	(Lem. 1899) S. purple. x
NIGRICANS	(Before 1872) S. 0
OBELISQUE*	(Lem. 1894) D. white.
<i>oblata</i>	
OLIVIER DE SERRES*	(Lem. 1909) D. blue. xxx
OTHELLO*	(Lem. 1900) S. purple red.
<i>palibiniana</i>	
PASCAL* E. H.	(Lem. 1916) S. lilac. x
PASTEUR*	(Lem. 1903) S. reddish.
PAUL DESCHANEL*	(Lem. 1924) D.
PAUL HARIOT*	(Lem. 1902) D. pink. 0
PAUL THIRION*	(Lem. 1915) D. red, late. xxx
<i>pekinensis</i>	
PERLE VON STUTTGART*	(Pfitzer 1915) D. magenta. 0
PERLE VON TELTON*	(Before 1914) S.
<i>persica*</i>	
<i>persica alba*</i>	
<i>persica laciniata*</i>	
PHILEMON*	(Cochet before 1846) S.
PIERRE JOIGNEAUX	(Lem. 1892) D. blue. 0
PINK BEAUTY OF FRANKFORT*	(Before 1924). S.
<i>pinnatifolia</i>	
PLANCHON*	(Lem. 1908) D. lilac, late. xx
PRES. CARNOT*	(Lem. 1890) D. lilac. x or 0
PRES. CHAUVET	(Bruchet).
PRES. FALLIERES*	(Lem. 1911) D. pink. xxx
PRES. GREVY*	(Lem. 1886) D. blue. x
PRES. GREVY foliis variegatis	See AUCUBAEFOLIA.
PRES. HAYES Ro.	Syn. Pres. Harjes. (before 1891) S. lilac.
PRES. LAMBEAU*	(Step. before 1922) D. blue. xx
PRES. LINCOLN*	(Dunbar before 1924) S. very blue, early. xx
PRES. LOUBET*	(Lem. 1901) D. red. xxx
PRES. MASSART*	(Brahy 1863) S. slate blue. x
PRES. POINCAIRE*	(Lem. 1913) D. lilac, too crowded, late. xx
PRES. VIGER*	(Lem. 1900) D. blue. xxx
PRINCE DE BEAUVAU*	(Lem. 1897) D. blue lilac. 0
PRINCESS ALEXANDRA*	(?) S. white. x
PRINCESS CAMILLE DE ROHAN	(Brahy before 1856) Syn. Camille de Rohan. S. lilac. 0
PRINCESS CLEMENTINE*	(Mathieu) D. white. 0 or x
PRINCESS MARIE	(Before 1846) S. lilac, pink. 0
PRINZ NOTGER	(Before 1841) S. lilac.

- PROF. B. STOCKHART (Before 1867) or Prof. E. Stockhart. D. lilac. 0
 PROF. SARGENT (Spaeth 1889) S. blue purple. 0
 PULVERULENTA TRICOLOR (Baudr. before 1890).
 PYRAMIDAL (Lem. 1886) (or *Pyramidalis*) D. blue. 0
*pubescens**
 QUADRICOLOR (Bensch before 1890).
 RABELAIS (Lem. 1896) D. white or S. 0
 REAUMUR* (Lem. 1905) S. purple, late. xxxx
*reflexa**
 REINE ELIZABETH* (Step. before 1922) S. white, poor foliage. xx
 RENE JARRY DESLOGES* (Lem. 1905) D. blue. x
 RENONCULE (Lem. 1881) D. magenta. 0
 ROCHAMBEAU* (Lem. 1919) S. purple.
 ROI ALBERT* (Step. before 1923) S. deep blue purple. xx
 RONSARD* (Lem. 1912) S. blue early. xx
*rothomagensis** Syn. Varin. Syn. dubia. S. lilac purple.
 ROUGE DE MARLEY See MARLEYENSIS.
 ROUGE DE TRIANON S. See RUBRA TRIANONIANA.
 RUBELLA PLENA (Lem. 1881) D.
 RUBRA DE MARLEY See MARLEYENSIS.
 RUBRA INSIGNIS (Before 1876) S. reddish. 0
 RUBRA TRIANONIANA (Before 1890) Syn. De Trianon. Syn. Rouge de Trianon, Trianon. S. purple. 0
 RUBRA MAJOR See CHARLES X.
 SARGENTIANA See *Komarovi sargentiana*.
 SATURNALE* (Lem. 1916) S. blue. x
*saugeana**
saugeana alba
 SCHERMERHORN (Before 1889) S. white. 0
 SCHNEELAVINE (Before 1876).
 SENATEUR VOLLAND* (Lem. 1887) Syn. Colmariensis. D. pink. 0
 SIEBOLD* (Lem. 1906) D. white late. 0
 SOUV. DE HENRY SIMON* (Simon before 1920) S. lilac.
 SOUV. DE LOUIS THIBAUT* (Lem. 1893) D. lilac. 0
 SOUV. DE LUDWIG SPAETH See ANDENKEN AN LUDWIG SPAETH.
 STADTGÄRTNER RODPELTZ* (Before 1926) S. magenta. x
sweginzowi
*sweginzowi superba**
 TAGLIONI* (Lem. 1905) D. white late. 0
 THUNBERG* (Lem. 1917 or 1915) D. pale lilac, late. xxxx
 TOMBOUCTOU* (Lem. 1910) S. purple. xx
tomentella
 TOURNEFORT (Lem. 1887) D. lilac, very blue. 0
 TOUSSAINT L'OUVERTURE* (Lem. 1898) S. purple, long thin spike, late. xx
 TRIANON See RUBRA TRIANONIANA.
 TRIUMPH D'ORLEANS (Berman 1854) S. lilac. x

TURENNE	(Lem. 1916) S. purple, late. x
TURGOT* E. H.	(Lem. 1920) S. pink to white. x
UNCLE TOM	See L'ONCLE TOM.
VALLETIANA	(Before 1846) D. pink.
VAUBAN*	(Lem. 1913) D. lilac. x
VARIN	See <i>Rothomagensis</i> .
VAN AERSCHOTT*	(Step. before 1923) S. magenta. 0
<i>velutina</i>	
VERGISSMEINNICHT	(Spaeth 1887) S. lilac. 0
VERSAILLES (VERSAILLENSIS)	See GLOIRE DE VERSAILLES.
VERSCHAFFELTI	(Before 1876) S. lilac. 0
VESTALE*	(Lem. 1910) S. white. xxx
VESUVE*	(Lem. 1916) S. purple, poor grower. xxxx
VICTOR LEMOINE*	(Lem. 1906) D. lilac, late. xxx
<i>villosa</i> *	
VILLARS* E. H.	(Lem. 1920).
VILLE DE TROYES	(Baltet before 1900) S.
VIOLETTA*	(Lem. 1916) D. purple, late, very dark. x or xx
VIRGINALIS*	(Before 1846) Syn. <i>Virginalis alba</i> . S. white. 0
VIRGINITE*	(Lem. 1888) D. white with pink. xx
VIVIAND MOREL*	(Lem. 1902) D. lilac. 0
VOLCAN*	(Lem. 1899) S. purple. xx
VON OBERSCHOTT	See VAN AERSCHOTT.
<i>vulgaris</i> *	
WALDECK-ROUSSEAU*	(Lem. 1904) D. pink. xx
WILLIAM ROBINSON*	(Lem. 1899) D. pink or magenta. 0 or x
<i>wilsoni</i> *	
<i>wolfi</i> *	
<i>yunnanensis</i>	

APPENDIX A

List of Doubtful Names

alba major	Foleis aureis
alba pyramidalis	Frau W. Pfitzer
Albert the Good	Gloire de Cass
Andrew Dupont	Hortulanus Witte
Anite Duke	hybrida
Antoine Buchner	hyenda
Bergen	japonica (not the species)
Canadensis	Jeanne Moris
Charlenbourg	Major
Comte de Paris	Marleyensis flora alba
De Laval	Marleyensis pallida
Dr. Hartet	Mlle. Amelia Duprat
Dr. Lyals	Mme. Dupont
Duchesse de Nemours	Mme. Victor Lemoine
Erianay	Nana

Noisette	rubra major
Notgeriana	Scipion Cochet
Prince Imperial	Sibirica
Prince of Wales	Sinai
Reine Marguerite	Souv. de Casimir Perier
rosea grandiflora	Souv. de Gaspard Calot
rubella	Speciosa
rubra	Spectabilis
rubra grandiflora	Ville de Limoges

APPENDIX B

Dunbar Lilacs—Not Introduced

(Date is year named)	HENRY CLAY ?
A. B. LAMBERTON	HENRY WADSWORTH LONG- FELLOW
D. purple.	1920 D. blue lilac. 0
ADMIRAL FARRAGUT	HIRAM H. EDGERTON
S. light pink. xx	1919 S. deep blue purple. xxx
ALEXANDER HAMILTON	JAMES MUNROE
D. purple. xx	D. blue. xxx
CALVIN C. LANEY	JOAN DUNBAR
light purple, very large. xxx	S. white, open truss. xxx
CLARENCE D. VAN ZANDT	JOHN ADAMS
0	JOHN DUNBAR ?
ELIHU ROOT	PATRICK HENRY
D. magenta	D. bluish
GEN. ELWELL S. OTIS	PRES. ALEXANDER ?
D. bluish lilac.	PRES. HARDING
GEN. GRANT	1922 S. red. xx
GEN. HAIG	PRES. MONROE
GEN. KITCHENER	PRES. ROOSEVELT
1917 D. bluish. 0	1919 S. red purple. xxx
GEN. PERSHING	SUSAN B. ANTHONY
1917 pink or light azure lilac. xx	S. reddish. 0
(This name conflicts with Lemoine variety already in commerce.)	THOMAS A. EDISON
GEN. SHERIDAN	1922 S. light purple. xxx
1917 D. white. 0	THOMAS JEFFERSON
GEN. SHERMAN	1922 S. purple. x
pale lilac, open truss. xxx	WM. C. BARRY
GEORGE W. ALEXANDER	1917 S. lilac, long spike. xx
lilac. x	WM. S. RILEY
	lilac. x

The editor will be very glad to hear from members as to the varieties and species of lilacs that they are growing. Several such reports are on hand and will be published later.

Have you brought in branches of forsythia and pussy willow to force them into bloom in a warm room? The unfolding leaves of trees and shrubs are beautiful also.

THE NATIONAL HORTICULTURAL MAGAZINE

Issued quarterly by The American Horticultural Society, a Union of The National Horticultural Society and The American Horticultural Society, at Washington, D. C.
 Editorial Committee, B. Y. Morrison, Chairman; V. E. Grotlich, P. L. Ricker,
 J. Marion Shull, John P. Schumacher, Hamilton Traub.

All members are cordially urged to send in papers and notes for publication to the chairman, at 116 Chestnut St., Takoma Park, D. C.

The second issue of the magazine from the Washington offices comes to you a little behind the intended schedule, but the issue for April first is well under way and will be in circulation promptly. We can promise you an interesting number with reports of the local meetings, various out-of-town meetings, articles on iris, water-lilies, the Cambridge Botanic Garden, narcissus and wild flowers. The Gardener's Miscellany is to be continued and for it news from as many gardens as possible will be most welcome.

THE FOURTH ANNUAL SPRING FLOWER EXHIBITION

Preliminary plans are already completed for the Spring Flower Exhibition which will be held in the Hall of Nations, Hotel Washington, Washington, D. C., on June 1 and 2, 1927. It will be recalled by persons who were members of the American Horticultural Society last year that the 1926 show was the most successful display of its kind ever held in the Capital City. The list of patronesses was headed by Mrs. Coolidge and Mrs. Jardine and the colorful setting of the entire program made it one worthy of repetition. From the financial standpoint the Exhibition was successful, for the guarantors, who contributed over \$700.00 to the guarantee fund, were all repaid in full.

For the 1927 Exhibition the committee, headed by David Lumsden, plans to stage an even more finished Exhibition and efforts are now concentrated upon raising the sum of \$1,000.00 as a guarantee fund. This sum will be accepted upon exactly the same terms as the sum that was raised last year, *i. e.*, after all expenses of the show are paid the balance will be distributed pro rata to persons making contributions up to the sum that they advance.

The Committee would like to feel that as many members of the Society as possible are sponsoring this show and all persons who are willing to advance a sum to this enterprise for the promotion of horticulture are invited to contribute. Checks should be made out to the American Horticultural Society and mailed to D. Victor Lumsden, Secretary, 1629 Columbia Road, Washington, D. C. All contributions received will be acknowledged in the program which will be presented to spectators at the Exhibition. Your participation is requested.

The Secretary now has on hand copies of the Constitution and By-Laws that were adopted at the time the National Horticultural Society and the American Horticultural Society united. These are reprints of the "Proposed Constitution and By-Laws" that were sent in April, 1926, to all members of the American Horticultural Society before the merger. If any member wishes a copy of this reprint it may be secured by addressing a request to D. Victor Lumsden, Sec'y, 1629 Columbia Road, Washington, D. C.

Growing Daffodils From Seed

BY DAVID GRIFFITHS

To the average man there is a large amount of mysterious difficulty about growing from seed the plants which he has habitually cultivated vegetatively. So ingrained is this false conviction, or prejudice, that it deters many a good grower from attempting what he might well perform to his own satisfaction, and often the benefit of the horticultural world.

Bulb culture generally has been looked upon in this country as difficult, more especially the culture of such bulbs as daffodils from seed. As a matter of fact, there is nothing difficult about this except that he who attempts it must have one quality which in this age of hurry some may not possess. This quality is steadfastness of purpose, and this steadfastness must be maintained without stimulation for four or five years, when there is sure to recur annually plenty of excitement for the jazziest of horticulturists.

The first and most important requisite for this culture is to get the seed and to plant it. Some preparation is necessary, though, before the job is entered upon. One should get together a considerable collection of named varieties—a dozen may do to start with. The list published in this issue by Mr. Morrison will form an excellent basis and guide for the assembling of the collection.

Although it is always advised that the propagator of seedling daffodils grow entirely from pedigreed seed, it is conspicuously true that some of the best varieties we have to-day are grown from chance fertilization. But it is better to be regular, conform to the best usage, and make definite pollinations, with the object of producing definite results in combining characters or creating new characteristics.

There are various methods which may be pursued in the growing of the seed, but there is no more difficulty in its germination than there is with asparagus. If the quantity of seed is small and the climate is such that it is difficult to maintain moisture at the surface of the ground, it is safer to grow in plunged pots or in frames, where moisture conditions can be better controlled.

On Puget Sound we gather daffodil seed in late June or early July and plant it in late August under open field conditions. It should never be held long after gathering before it is planted. The germination taking place in the spring and the subsequent growth are as perfect as could be expected. But, on Puget Sound, there is constant moisture at the surface of the ground from September to June. Where this does not obtain artificial watering is necessary. When that is necessary it becomes doubly essential that good drainage be provided for the seed bed because in the absence of such drainage a soggy, water-logged condition is prone to be reached, negating the effort at maintenance of good condition for germination.

The seed is planted in the conventional Dutch bed the same as the bulbs except that the rows across the bed (3 feet long) are usually only 3 inches apart. The depth of planting must be greater than in pot or frame culture to compensate for the more variable aspect of the open field conditions. Our planting is therefore made 1 to $1\frac{1}{4}$ inches deep. The seed is distributed into a depression $\frac{1}{2}$ inch wide, made by the marker in the soft, well-prepared ground. This makes the row $\frac{1}{2}$ inch wide, giving an advantageous spacing for about 100 seeds which are distributed from cornucopias fashioned from stiff smooth paper.



Photograph by the Author

A planting of daffodil seedlings on the Bellingham, Wash., garden. The bulbs are making their third years' growth and have been handled exactly as advised in this paper

In late autumn it is desirable to cover the beds with a little straw litter to prevent erosion and heaving. This is removed in the spring.

The writer prefers to leave the seedlings in such a seed bed for two years because they do not get large enough the first season to enable the workmen to get them all if digging is attempted. When the plants die down at the end of the first growing season it is highly important that an inch of friable soil be added to the beds to be followed again later in the season by strawy litter.

At the end of the second year's growth the bulbs should be large enough to handle nicely. They may be $\frac{1}{4}$ inch or more in diameter and $\frac{1}{2}$ to $\frac{3}{4}$ inch in length. They should not be kept out of the ground long for there is too much danger of their being weakened by desiccation. When the number of seedlings is small and the grower's estimate of it high, he will set each bulb up individually when planting again. This, however, is very burdensome if one has a large

number of seedlings. A much simpler plan is to open up the bed in the Dutch way and distribute the bulbs in rows across the bed much as seed is sown without any attempt at definite placement. It does not seem to make much difference in the growth whether the small bulbs are set up or not.

At this transplanting from the seed bed the small bulbs may be set only about 2 inches deep, which will necessitate a mulch again to protect the young stock, especially where there is likely to be any appreciable heaving.

If the 2-year old stock is spaced well and set 40 to 50 to the row (across a 3-foot bed) and the rows are 6 inches apart, the bulbs can remain here again for two years longer, but it is advisable to add an inch of soil to the beds again at the close of the first season in their new quarters.

The bulbs have now reached the fourth year of growth and a very few of them may blossom, but the excitement does not really begin until the fifth year, when there should be a liberal flowering. The flowers may

not yet show their true worth, but should give a good indication of what is in them and come to their normal condition at the second flowering.

From now on with this first lot of seedlings the breeder's problem is one of selection, and fortunate indeed is he who has the courage to act promptly on his convictions by destroying all which do not measure up to his standards of perfection. Otherwise he will soon swamp himself with the labor of caring for the mediocre which can never be of particular use or pleasure to anyone.

All seedlings which are selected as having merit should be set out individually for further study and selection so that all of the progeny of each seedling may be kept together, for a variety of daffodil which goes into commerce is, or should be, derived by vegetative reproduction from a single seedling.

If seed has been made and planted each year, the very interesting time begins about the fifth year, and after that the interest and zest are increased by leaps and bounds as succeeding years' progenies come into flower. One soon gets to the point where he will use his own best seedlings as parents, adding a new element of interest and pride to the performance.

The fact that there has been so much work done and in progress on the breeding of daffodils should deter no one from entering the field, for the promise of success is as great to-day as it ever was, and it is those which are the best posted and the most experienced that are the most enthusiastic over the possibilities to-day. We need American seedling daffodils for American conditions. Some, possibly a dozen, of merit have already been produced. Let us hope that other breeders will enter the field. Let us hope that some patient, far-seeing soul in the South will go in for hardier and better Polyanthus varieties which will thrive into the Carolinas, that attention will be given to the improvement of the Campernelles by a wide range of hybridization, that the work of Samuel Goodell, George Streater, and the Kapteins may be carried on, added to, and supported farther north with the so-called Dutch varieties.

The work needs to be undertaken with determination. The selection must be rigid, the standard must be high, for to enter the galaxy of stars which we possess to-day requires brilliancy of color, perfection of form, and robustness of constitution. No weakling need apply.

Narcissus Parentages

By B. Y. MORRISON

When any worker begins his task, he is always more or less concerned with the work that has been done before him. If the records are available to him, he is often spared much labor and time. Very often the records of the named varieties of horticultural plants are not published because the originators either kept no records or did not care to share them with others. Those listed below have no special significance save that they represent the records of parentages that have

come to hand. It is impossible to credit all the sources that have been examined, but books, catalogues and personal correspondence have been drawn upon. The crosses should be suggestive to any undertaking future work as indications of the direction in which various workers of the past and present have approached their problems. Credit is given the originator by the name in parenthesis immediately following the variety name.

- Albatross (Engleheart)
ornatus×Empress
- Albert Vis (Heere)
 King Edward×Polyanthus Staaten
 General
- Ben Adler (Brodie of Brodie)
 King Alfred×Lord Roberts
- Bokhara (Brodie of Brodie)
 Tamarlane×Fortune
- Bulwark (Brodie of Brodie)
 Ben Alder×Cleopatra
- Capella (Pearson)
 Minnie Hume×Mme. de Graaff
- Clarion (Engleheart)
 Monarch×King Alfred
- Correggio (Brodie of Brodie)
 Bernardino×King Alfred
- Crimson Braid (Chapman)
 Will Scarlett×*poeticus verus*
- Curacao (Chapman)
 Princess Mary×Acme
- Driven Snow (Guy L. Wilson)
 Giant Leedsii Seedling×
 Mrs. R. Sydenham
- Ettrick (Brodie of Brodie)
 Pilgrim×Mrs. R. Sydenham
- Everest (Guy L. Wilson)
 Giant Leedsii Seedling×
 Mrs. R. Sydenham
- Florence Pearson (Pearson)
 Emperor×Mme. de Graaff
- Florist's Delight (Guy L. Wilson)
 Monarch×King Alfred
- Galata (Brodie of Brodie)
 Mozart×Gallipoli
- Gallipoli (Brodie of Brodie)
 Bernardino×King Alfred
- Giant Santa Maria (Guy L. Wilson)
 King Alfred×Santa Maria
- Giraffe (Engleheart)
 Mme. de Graaff×Princess Mary
- Golden Arrow (Barr)
 Monarch×*cyclamineus*
- Golden Cycle (Hawker)
 Golden Spur×*cyclamineus*
- Golden Flag (Guy L. Wilson)
 Monarch×King Alfred
- Golden Ingot (J. L. Richardson)
 Giraffe×Golden King
- Grand Marnier (Chapman)
 Will Scarlett×Crimson Braid
- Halfa (Brodie of Brodie)
 Queen of the West×White Emperor
- Hebron (Brodie of Brodie)
 White Emperor×King Alfred
- Homespun (Engleheart)
 Golden Spur×*ornatus*
- Honey Boy (Guy L. Wilson)
 King Alfred×Mme. de Graaff
- Hon. Mrs. Francklin (Pearson)
 Minnie Hume×Mme. de Graaff
- Hopeful (Guy L. Wilson)
 Bernardino×King Alfred
- Irish Pearl (Guy L. Wilson)
 Minnie Hume×Pearl of Kent
- Jamboree (Chapman)
 King Alfred×Homespun
- Kingcup (Adams)
 Golden Spur×*ornatus*
- Laughing Water (Cartwright & Goodwin)
 Minnie Hume×*ornatus*
- Lowdham Beauty (Pearson)
 Minnie Hume×Mme. de Graaff
- Maharajah (Lower)
 Victoria×Weardale Perfection
- Marigold (Engleheart)
 Monarch×*jonquilla simplex*
- Marmaduke (Chapman)
 King Alfred×Crimson Braid
- Marmorata (Brodie of Brodie)
 Minnie Hume×Mrs. Krelage
- May Fisher (Lower)
 St. Olaf×Mrs. Krelage
- Minuet (Chapman)
 Kingsley×Socrates
- Mitylene (Engleheart)
 Beacon×Giant Leedsii Seedling
- Moray (Brodie of Brodie)
 Nevis×Tenedos
- Norah Pearson (Pearson)
 Minnie Hume×Mme. de Graaff
- Orgy (Chapman)
 Will Scarlett×Crimson Braid
- Osiris (Guy L. Wilson)
 Princess Mary Seedling×King Alfred
- Ossa (Brodie of Brodie)
 Glory of Nordwijk×King Alfred
- Pascal (Chapman)
 Treasure Trove×Lady Mayoress
- Pearl of Kent (Haydon)
 Mme. de Graaff×Monarch
- Pippin (Chapman)
 Princess Mary×Chaucer
- Plenipo (Engleheart)
ornatus×Double Von Sion

Primrose Knight (Richardson)
 Cleopatra×White Knight
 Quartz (Brodie of Brodie)
 Morven×White Emperor
 Rewa (Lower)
 Bernardino×Fortune
 Riva (Brodie of Brodie)
 Bernardino×Rosary
 Rochester Quinton (Chapman)
 Firebrand×Swashbuckler
 Rondeau (Chapman)
 Socrates×Kestrel
 Savonarola (Brodie of Brodie)
 Weardale Perfection×White Knight
 St. Bernard (Brodie of Brodie)
 King Alfred×Bernardino
 Scoutmaster (Chapman)
 King Alfred×Minnie Hume
 Silver Spangle (Chapman)
 Lulworth×Horace
 Stability (Guy L. Wilson)
 Princess Mary×Vestal Virgin (?)
 Suda (Brodie of Brodie)
 Lord Kitchener×Nevis
 Supremacy (Goodwin)
 King Alfred×Rev. R. D. Williamson
 Swashbuckler (Chapman)
 King Alfred×Minnie Hume
 Tapin (J. L. Richardson)
 Cleopatra×White Knight
 The Don (R. H. Bath)
 Weardale Perfection×Mme. de
 Graaff
 The Fawn (Mrs. R. O. Backhouse)
 Minnie Hume×Weardale Perfection
 Tresserve (Van Tubergen)
 Emperor×Golden Spur
 Torch (Engleheart)
maximus×poeticus poetarum
 Vega (Pearson)
 Minnie Hume×Mme. de Graaff
 Vintage (Chapman)
 King Alfred×*calathinus*
 White Nile (Brodie of Brodie)
 Laughing Water×Mrs. R. Sydenham
 White Owl (Barr)
 Minnie Hume×a tazetta
 White Sentinel (Engleheart)
 Beacon×Giant Leedsii Seedling
 White Star (J. C. Williams)
 Princess Mary×Horace

After reading such a list, one realizes that many varieties are included which

are no more than names in this country except to the owners of special collections. This is explained chiefly by the fact that the more recent workers have been more willing to publish the crosses that they have employed.

While it is always unfortunate to start breeding work with horticultural varieties that are not of the most recent production, as they represent not only the breeding but the selection of many generations, the following list is given since it contains older varieties that are likely to be in the ordinary garden. All of them have proven fairly fruitful in the writer's garden near Washington, D. C. They are not equally fruitful to all pollens but certainly should be looked upon as fertile varieties.

Ailsa	Minnie Hume
Bernardino	Monarch
Cassandra	Mrs. Krelage
Cleopatra	Oliver Cromwell
Gaza	<i>recurvus</i>
Great Warley	Red Beacon
Kestrel	Robert Sydenham
King Alfred	Sirdar
Kingdom	Thelma
Lord Kitchener	Van Waveren's Giant
Mme. de Graaff	Weardale Perfection
Masterpiece	

In the brief experience of the writer in making careful crosses, all types have been attempted and usually give about fifty per cent of successes with seeds from one to as many as twenty to the capsule. Trumpets crossed with trumpets usually set seed. Giant Leedsii and Giant Incomparabilis crossed with trumpet pollen are usually fruitful. The fruiting powers of the ordinary Leedsii, Incomparabilis and Barrii forms vary with the different varieties and in different localities. For example, the very old Leedsii variety, Minnie Hume, which fruits freely in England and gives excellent Giant Leedsii children from trumpet pollen, fruits well with me but Dr. Griffiths reports that it rarely if ever seeds with him in the

Puget Sound country. Most of the poets are highly fruitful, both to trumpet and to Barrii pollen. Again, different varieties normally give different amounts of seed. Will Scarlett gives very few, one or two to the capsule, while King Alfred will often give twenty or more. Bernardino has also fruited freely.

It is too soon to speak from personal experience, but from the study of the available records a few interesting things are apparent. From the crossing of a *poeticus* and a white trumpet, a small Leedsii results, for example, Minnie Hume; if this in turn is crossed with a white trumpet like Mrs. Krelage, a Giant Leedsii results like Marmora. Presumably if Marmora were to be crossed with another white trumpet, the series of resulting seedlings might include both Giant Leedsii and white trumpet seedlings. Now the advantage of all this is that the infusion of *poeticus* blood in the initial cross will carry through all the following crosses the character of the long *poeticus* stem as well as the whiteness of the perianth and so overcome the difficulty of the pure bred white trumpets that have short stems for the most part. By such circuitous routes the breeder will approach his goal.

Of course in some cases the crosses are more direct. Poets are combined with other poets and the resulting

seedlings are used as material from which selections are to be made. The same is true of trumpets. Trumpet on trumpet will give trumpet progeny from which the desired individuals can be chosen. In the preceding list, Clarion and Golden Flag, both yellow trumpets, the one raised by the Rev. G. H. Engleheart and the other by Mr. Guy L. Wilson, resulted from the identical cross, Monarch×King Alfred, both yellow trumpets, but Tapin, a white trumpet, was raised by Mr. Richardson from Cleopatra (yellow) by White Knight (white). Of course other seedlings from that same pod may have been yellow or intermediate hues as in the case of Primrose Knight, a sister seedling. Honey Boy (yellow) resulted from King Alfred (yellow)×Mme. de Graaff (white). Pigment seems to be more persistent in trumpets and cups, so that when flowers of different colors are combined more of a compromise seems to appear in the cup than elsewhere.

The only scheme for the beginner, therefore, is the laborious and ancient one of trial and error, until he knows what his material will do under his conditions. This having been discovered, he can then formulate some program of crossing which will lead to the accomplishment of definite ends in the new sorts that are to appear from his hand.

Yellow in the Garden

BY J. MARION SHULL

Gardening as applied to the beautification of home grounds large or small is a sort of artistry with endless possibilities permitting all the play of fancy that the landscape painter may indulge in but with the added factor of time, a sort of fourth dimension, as compared with the painter's more limited means of expression.

Naturally the painter seldom confines himself to the use of a single

color, but there are times when it pleases him to let the picture be dominated by such a color, and to those who use garden materials in lieu of pigments, while there is no limit to the variety that may be obtained when wanted, it is often desirable to have the garden picture, or some definite portion of it, dominated by a chosen color either during some particular period or possibly throughout the season.



Photograph by the Author

The Wolley Dod Sunflower

While the consummate artist loves all colors, many of us have our favorite colors or favorite combinations of harmonizing colors and are interested in the materials that best supply these particular colors. And then with a sufficient knowledge and skill and a proper use of the time element the result in the garden may even be something of a moving picture, dominated by one color to-day and by

something very different a couple weeks later, and so on throughout the season of bloom.

To secure this deliberate shifting of scenes it is quite necessary that the garden calendar of a given locality be fully mastered, since the whole effect depends on the time adjustment of the materials used, and success will not always be secured at the first attempt, but the use of a note book in

the garden should gradually correct any deviations from the desired scheme.

Sometimes it is the gardener's pleasure to retain a dominant color in a certain portion of the garden through the entire season. This is not so difficult an undertaking as the ordered fading out and fading in from one color to another, but does involve a knowledge of the flower calendar for the particular color used. Let us then consider some of the materials available where yellow is to be the dominant note.

Yellows are not all equally satisfactory in quality, nor are all yellow flowers equally desirable, for various reasons, but yellow at its best is such a warming, cheery sort of color that it is quite indispensable.

Very early in the spring we may have the yellow crocus, not large flowered like the white or purple, but usually in advance of them and flowering so freely as to make flecks and splashes of golden sunshine to light up the still leafless shrubbery border, itself soon to glow with the yellow of the forsythias. A little later the splendid yellows of the daffodils and others of the Narcissus family do valiant service, but if real yellow is desired it is best to avoid the bi-colors as too pallid in effect and confine the choice to such varieties as Emperor, Sir Watkin, Barr's Showy, and others of these types. Because the foliage of narcissus fades and dies a little later in the season, and yet for the continuing welfare of the bulbs must not be removed until this stage is reached, it is a good plan to plant bands of these bulbs just back of iris and peonies whose early growth is not sufficiently advanced to obscure the bloom of the daffodils, but whose later growth will mask and cover the unsightliness of their declining days.

A lovely fade out and fade in effect may be had with iris and daylily (*Hemerocallis*), planting the general run of white, blue and purple varieties of Iris with a few clumps of *Hemerocallis Dumortieri* for contrast, along

with an abundance of Iris Virginia Moore and the Lemon lily (*Hemerocallis flava*). Some of the daylilies are among the loveliest of our perennials, with beautifully formed flowers of bright yellow timed to bloom along with the general run of iris. The lemonlily and Iris Virginia Moore, identical in color and coming a little later, bring a transition from the general purple dominance to one of clear yellow, the lemon chrome of Virginia Moore being a particularly luminous yellow that glows in the twilight as if compelling the sunlight to linger a while after it has departed from the rest of the garden.

As a source of yellow in the perennial border over a considerable period *Coreopsis lanceolata* is quite valuable with its long slender stems suitable for cutting. And if the garden be more largely of annuals charming yellows may be had from California poppies and from the best of the calendulas and marigolds. Unfortunately the last named give off such a disagreeable odor that many gardens omit them for this reason, but they are capable of supplying splendid yellows when color is the sole interest and where the labor required for growing annuals will permit their use. The best garden for the busy man, the best garden for the labor involved, is always the perennial garden, where things well chosen and then planted well may be depended upon to give years of faithful service with a minimum of care and coddling. It is in a garden of this kind that the accompanying picture was taken, in what is set apart as the "yellow corner." Here, banked against the dark background formed by the fine foliage of the old-fashioned Snowball that our grandmothers loved, the Rouen Lilac, most valuable of all the lilacs for the average garden, and the luscious shadows of the Nordmann Fir, blooms a mass of *Hemerocallis Dumortieri* with its profusion of rich cadmium yellow flowers, followed later by the better known Lemonlily, *Hemerocallis flava*, and then in September

and October by the Wolley Dod Sunflower, a most valuable acquisition in any garden and a splendid source of yellow in the autumn picture.

To those who know only the annual sunflowers with their coarse leaves which later dry up and become unsightly, the recommendation of a sunflower as a valuable addition to the perennial border may come as a surprise, but this *Helianthus* has none of the coarseness of its annual cousins or of some others of the hardy sun-

flowers. Its leaves are as slender as those of a lily, deep green and shining, in fact a very attractive thing for its foliage alone, and this attractiveness is maintained through blooming and beyond, right up to the time of freezing weather. In a garden where insistence on acceptable foliage has figured almost equally with beauty of bloom when considering a candidate for admission, the Wolley Dod Sunflower has found a welcome place.

NEW MEMBERS, PLEASE

Now that the 1927 planting season is so close upon us, our thoughts turn more than ever to things of the garden. With these spring prospects come visions of sharing the joys of our gardens with others. Among these joys are you counting that of having your friends share the privileges and benefits of our growing society with you? Tell them of it, of our aims and purposes and ask them to help bring these things about. Now that we are a united organization with big things ahead to be done, inspire others to join us and get the work really started. Perhaps we can not do all we should like this year but the more members we have, the more we can accomplish and the greater the benefits each member will receive. Let each one therefore get at least one new member *now* while we are full of spring enthusiasm and before our gardens absorb all of our attention. Help your friends and American horticulture by passing along the good word while you are enthusiastic about it.

F. L. MULFORD,
President.

A BOOK OR TWO

In his recent book, "Sweet Peas, Their History, Development, Culture,"¹ Mr. Charles W. J. Unwin has

two particularly interesting chapters, one on "The Raising of New Varieties" and the other, "Sweet Peas of the Future." In the first there is a careful and not too technical discussion of all the breeder needs to know in getting new varieties, and in the second, there is an illuminating discussion of the point of view that the breeder should cherish. In this country where plant breeding, especially between horticultural varieties, has not been as commonly practiced as in a country with older garden histories, this discussion is of great value to remind us that each new seedling of hybrid origin is not necessarily valuable in itself but must be measured not only by the rigid standards of the day but by the possible standards of the future.

Quite different in style and contents is Mrs. Cummins' "My Garden Comes of Age."² There is much beside garden in its pages, so much indeed that the title is a little beside the point, since here are chronicles of the rehabilitation and development of an old place, over a period of time long enough to bring a feeling of maturity into the plantings and of establishment into the buildings.

¹Unwin, Chas. W. J. Sweet Peas. W. Heffer & Sons, Ltd., Cambridge, England. 1926.

²Cummins, Julia H. My Garden Comes of Age. The Macmillan Co., New York. 1926.

The Gardener's Miscellany

SOME NEW SYRINGA HYBRIDS.

In 1920, at the Central Experimental Farm, Ottawa, Canada, a start was made in breeding a new race of hardy lilacs. The late blooming hardy species *villosa* was chosen as one parent, and this was crossed with *reflexa*, one of the new introductions from China, which has drooping panicles and rosy pink flowers closely packed on the stem. This cross proved successful and there are about two hundred and fifty seedlings growing. They show great variation, particularly in the size of inflorescence. A few are quite small but the majority are much larger than those of either parent. They branch freely and the bushes are one mass of bloom for a considerable period. The color varies in the different plants from pale pink to pinkish lilac. A number of seedlings of this cross showed yellow streaks on the leaves which our plant pathologist said was not caused by disease, but it was very unsightly, as the pale colored part of the foliage shrivelled up early in the season. The plants in most cases were dwarfed also, so they were destroyed.

S. villosa × *S. chinensis* (Rothomagensis). These are both quite hardy at Ottawa, and the pollen parent is one of the most floriferous of all lilacs, but this character does not show in the progeny. The bushes are smaller than those of the other cross and the panicles are smaller and more compact. The flowers are bluish lilac in color. These are of no interest as ornamentals but may be useful for further breeding work.

S. reflexa × *S. Lutèce* (a hybrid of *villosa*). The one seedling of this cross is a handsome bush, very floriferous and much the same as the *villosa* × *reflexa* crosses. The color of the flowers is pinker than most and the panicles

show some trace of the drooping habit of the seed parent.

S. joskiaeae × *S. reflexa*. This is a very vigorous plant and a free bloomer. The trusses are large and the flowers lilac in color. All these plants set seed naturally so that new types may be expected amongst the future generations. The seed of several of the best of them has been sown.

ISABELLA PRESTON,
Specialist in Ornamental Gardening,
Horticultural Division,
Central Experimental Farm,
Ottawa, Canada.

WALL GARDEN PLANTS FROM THE HIGH PLAINS COUNTRY.

I have read with much interest what Dr. Henri Correvon has to say and was especially interested in all that he said concerning walls. For a goodly number of years I have been experimenting with our wild, high plains flowers and testing them out in various locations on my home grounds, and from results obtained at home and enthusiastic reports from others in various parts of the country, I am certain that many of them will be found very desirable for wall plantings. Time forbids my mentioning more than a few of those that have given universal satisfaction. At the very top of the list I would place *Artemisia frigida* with its silvery-green foliage so finely cut as to resemble a beautiful silvery mist. This will require your keeping the flowering stems cut away but it will thrive in sun or shade and where it is hot and dry and again do very well where it is very wet, providing water does not stand on it for any great length of time. Plant with it *Mertensia lanceolata*, as this is to the dry sunny spot what *M. virginica* is to the

moist woods places, only *lanceolata* grows only from 4 to 8 inches tall, dies down soon after flowering, thus leaving the space to be filled by the *Artemisia* which stays fresh the year through. *Malvastrum coccineum*, with flame colored blossoms, like tiny hollyhocks in shape and as large as fifty-cent pieces, borne in terminal racemes that will continue to elongate and give fresh blossoms daily for a month or more, has prettily lobed gray-green foliage that keeps fresh through the greater part of the year. *Lithospermum angustifolium* has lemon yellow, fluted edged, three-quarters of an inch wide, funnel-formed blossoms wreathing nicely arching stems six to eight inches in length, abundantly clothed in very narrow, light green leaves, these too retain their freshness throughout the season. *Potentilla concinna* is a winsome little dwarf with five parted, silvery margined, silky foliage and small, deep golden cups; these too, keep fresh to the very end of the season. All the above except the *artemisia* have long slender roots that go deep among the stones, thus enabling them to remain fresh under conditions that would be fatal to many plants. *Viola adunca* is a diminutive little free-blooming variety that will stand much drouth and is winsome enough to please the most fastidious. These are only a foretaste of many yet to come.

FANNIE MAHOOD HEATH,
Grand Forks, N. D.

PUT THE CHICKENS TO WORK.

The injunction "Don't burn the dead leaves" has been repeated so often and the reason for saving them has been so thoroughly drilled into the gardener's mind that a compost pile is part of his regular equipment. Nature's process of converting fallen leaves to leaf mold is slow, and the ordinary compost pile, though faster, is not exactly speedy. It is possible to hasten the process, however, if the gardener has—of course inside a tight wire fence—a few chickens. The ruinous pronged and armored feet are quite as efficient in tearing dead leaves to fragments as in scratching up rare seedlings. Dump the leaves in the chicken yard, and in a few months they will be reduced to fine black mold. Piling this up in alternate layers with sand or sifted ashes produces the justly celebrated "sand and humus" combination that is so valuable as an addition to most garden soils.

BERNARD H. LANE,
Washington, D. C.

It is to be regretted that the word "garden" has come into such loose usage among gardening amateurs, especially those with small places. Here the activity of the owner brings his gardening operations into all parts of his property but does not make his place a garden, which is always a distinct and separate area with as much definition and character as a room in a house.

Mulleins in the Garden

BY SHERMAN R. DUFFY

Perhaps it may be an execrable pun in starting notes of a phenomenally wet season to say that our knowledge of plants is in a liquid state to a great extent. We are finding out that some

ancient traditions, many of them merely entailed misinformation, are wrong and others are merely the result either of incomplete observation or of wrong conclusions. This is by way of

introducing the fact that the mulleins, verbascums, always noted as excellent plants for dry situations and often with the stipulation that they require a dry situation, revelled in the continuous downpour during the summer of 1926 in this part of the country and that under these conditions the Greek mullein, *Verbascum olympicum*, made five separate sets of branches and still showed blooms when the killing frost came in mid-October. Usually its first candelabra is all that it has ever produced for me and it then seeds and dies.

Some of the hybrid mulleins such as Harkness Hybrid and Miss Willmott kept lengthening out their stems and continuing their season of bloom while a few spring seedlings rushed up and bloomed as October annuals. The soil in which they were growing washes out about 75 per cent white sand and in normal seasons is very hot and dry during midsummer. It is drained to the last drop as it has sandstone under it to considerable depth. The lesson, as I read it, is that the mulleins do not necessarily require a dry situation so much as excellent drainage, for never have I seen such vigorous, luxuriant plants as those in a season when there were not more than two successive rainless days for more than two months and when the soil was continuously wet.

However, they do grow excellently in soil so dry that few of the usual garden plants will thrive in it.

Mulleins are seldom grown and they deserve better acquaintance, for they have a very individual decorative value as well as making stately groups. Perhaps if they were kept disguised under their botanical name of *Verbascum* so that no one would know they were mulleins they would be more grown, because our common field mullein is so well known that the name creates a prejudice against its beautiful relatives from other climes.

My acquaintance with the *Verbascum* Tribe has been rather recent so far as my own garden is concerned, although I have admired the few I

had seen in other gardens and they were recalled to me by a fine photograph in an English magazine which led me to secure seed of such varieties as were listed to try them out. I am often told that this habit of investigating a genus of plants is bad gardening and a definite symptom of the collector instead of the gardener. I am quite willing to plead guilty most shamelessly as I find it much more interesting to study plants than to bother about their arrangement exclusively. A tempered combination, perhaps, is the ideal.

Of the mulleins I have grown, I like the old Greek mullein best and I like it as a specimen plant when the full effect of its branching may be seen. This is lost in a group or mass of it. Those mulleins with the tall single spires are best in groups and make a fine display. The groups are advisable also because of the habit of the plant of blooming all up and down the stalk in spots and not filling out a full spike as does the Greek mullein whose individual flowers are smaller than those of the later hybrids.

There is also a prejudice against the mullein because it is a biennial. Gardeners have not yet learned patience and, for the most part, do not like to wait two years for bloom and then have to repeat the process. *Verbascum olympicum* is more discouraging in this regard for I have never succeeded in making it bloom before the third season, making it a triennial. Its huge rosettes of velvety grey green leaves often four feet in diameter lying flat upon the ground like a many-rayed gigantic starfish have a real decorative value and are striking even when it is not in bloom. Its five-foot many-branched golden candlesticks are sufficient reward for me even if I do have to wait three years. Sowing a few seed each year makes the performance continuous once a start is made.

It is an excellent accent plant for the hardy border. The tall spires of Miss Willmott and Harkness Hybrid

answer the same purpose. Under favorable conditions these plants are said to reach a height of ten feet. My tallest spire, that of Miss Willmott, was eight. This and Harkness are woolly leaved plants, making large clumps, the leaves held more or less erect and striking and decorative in their grey velvet. Miss Willmott has the handsomest individual flowers to my way of thinking, creamy white with a cluster of golden stamens. Its tall spike studded with these good-sized blooms which individually suggest some of the evening primroses, never fails to attract attention. Harkness Hybrid is the same type of plant in soft yellow.

Verbascum chaitii is of a little more refined character and the most nearly perennial of the lot. It also has yellow and white forms but grows only from 3 to 4 feet tall. It makes fine clumps.

Verbascum giganteum with its towering thick cylindrical 10-foot spike lacks the beauty of flowers of some of the others but is most imposing. I once saw a single sentinel stalk rising from the top of a rock garden with a rugged boulder alongside and it made a striking picture.

The hybrids I find make beautiful companion clumps for the tall delphiniums, blooming at the same time. There is a hybrid named A. M. Burnie that I have not seen said to have rosy fawn flowers.

Of an entirely different character is

the Phoenician mullein, *Verbascum phoeniceum*, growing from a foot to eighteen inches in height with flowers in pastel shades from white to violet through pink. It has dark green, corrugated foliage lying flat upon the ground. Unlike the other mulleins which revel in heat and sunshine, the Phoenician mulleins demand shade. The bloom is very fleeting. They make good subjects for the bolder part of a rock garden and make attractive and unusual clumps in the shady portion of the hardy border.

The mulleins are all easily raised from seed, and once you have them you will always have them if they are allowed to seed. As they are biennial and take up a lot of room, they are best grown in some convenient out of the way spot until they are ready to bloom. Care must be taken in moving them to get most of the fleshy roots, but they do not resent being dug up and moved.

They may be induced to remain over some times if the flowering stalk is cut down as soon as the bloom begins to become sparse. As the buds form in clusters along the stem and open in succession the blooming season is a long one.

A few of the tall spikes in the border give an airy effect and vary the sky line in a manner that is picturesque and there is no perennial that comes to mind that can quite fill the bill for this purpose as does the mullein.

At the End of Winter

In his very delightful book "My Garden in Spring," Mr. E. A. Bowles begins one paragraph with the sentence, "There is much pleasure to be derived from watching the thrusting through of one's plants in the dull wintry days." He then goes on to

comment on the differences that attend the springing of various plants and wonders at the force hidden in the apparently delicate shoots which so successfully push aside the weight of soil. There is another beauty in these rising points of living force which

to me is even more arresting and delightful, the line of growth described by the growing shoot. If one were inclined to be excessively accurate, I fancy these curves of growth might even be charted for many plants with singular interest to all.

In our consideration of plants we are more likely to be concerned with the ultimate state of our specimen than with its passing beauties. In herbaceous plants we look to the month of flowering, planning our borders with the times of flowering of the various things so coinciding that harmonious effects will result. In woody plants we are more concerned with that future time when the tree or shrub shall have reached maturity agreeing with the thought we have connected with the plant. This manner of thinking is perhaps the reasonable outcome of an interest in plants which is essentially cultural in its origin, for usually we are primarily concerned with the growing of our plants, coming later to a study and appreciation of their arrangement, a time when they cease to be the objects of our cultural care and skill, and are merely objects in design, to be regarded dispassionately and moved about like tables and chairs until the proper arrangement is secured. The Japanese carry this one step further; they not only arrange their plants with the utmost care in the production of effects but are so concerned with the whole composition that by skilful pruning they outstrip time itself and secure the appearance of age, even of decay, within incredibly short periods. As might be expected their gardens of this type never show plants that are grown with that standard of horticultural skill which accepts abounding health and fatness as the ultimate goal of the gardener's endeavors.

For most of us, it is impossible to set time aside, and the planning of gardens with the ultimate effect in mind is not only right but inevitable. In our devotion to this future goal, however, we should not forget the pleasures of

the day among which should be recorded those derived from springing herbs.

As bulbs are among the first things to stir after the winter, they serve sufficiently to illustrate this point. How gently the snow drops push up, first the white sheathing leaves and then the green, rising between and falling aside right and left, with the flower in the center. It is the same pattern we find in the springing of the narcissus, and yet how different is the effect. In the latter, the very robustness, the increase in the size and scale of the plant alters the appearance. The strong noses push through with a vigor that suggests a moving force and the leaves rise to a considerable distance in the air close to one another before they separate, showing a thrust of obvious power. Then they too fall apart, right and left in varying degrees even to such extremes as one finds in the old and almost forgotten *M. M. de Graaff*, which is as symmetrically bilateral as if it were designed to take its place on some formal old tapestry. And then the crocuses! How sharply they come up, first the white noses and then the needle-tipped green leaves. With what vigor they rush into the light and then with what delightful curves they fall over as the leaves mature, strong arcs in vigorous semicircles about the central flowers. This is the pattern too for certain bulbous iris, save that they as they mature, show a bilateral arrangement of leaves. An entirely different thrust is worn by the tulip, its rising leaves suggesting a motion that is almost spiral. The sharp-tipped outer leaf rolled over on itself quickly turns to one side and the next emerging turns another way. The pattern of the hyacinth shows still another device foreshadowed in the rising points of the earlier squills and chionodoxas. Here we have a group of leaves rising together as in the narcissus, circular in plan rather than bilateral, for they overlap slightly each on his neighbor and rise as a column. When they

part, there is the effect of the individuals springing back from the central column, the same poetry of motion that is seen when a circle of dancers, hands joined, stand close and then spring back revealing a central figure. And how differently the leaves fall back; in the hyacinth only enough to let the columnar flower stalk push through, in the squill generously, until in the case of the late flowering *Scilla campanulata* the leaves lie almost flat upon the earth like a winter rosette.

All of these plants have leaves that spring from the ground line. Still other effects appear in the plants where the leaves are borne aloft on the even more rapidly growing stems. Compare the over-arching sweep of a lily or a solomons-seal with the stiff, erect young shoot of a peony and the latter with the unfolding growths of the tree peony. Again compare the ascending lines of the stalks of phlox and delphinium and these in turn with anchusa. If you have not forgotten your original heritage of drawing, make swift lines with a soft pencil to follow the lines of growth. See the sweeping curve of the first mentioned and note how it rises like a rocket and turns over at the end with a final burst of flowers that check and terminate the momentum of the upward sweep. See the peony with its solid thrust like the upward jet of a fountain that rises until its force is spent and then falls evenly from the crest. To be sure, in time the peony shoot is pulled over by the weight of the flower, but we are concerned only with this moment of rushing growth. The tree peony shoot rising at the ends of the matured wood has a delightful unfolding, the leaves pulling away from one another about the stem with curves suggesting the movements of the wrist and hands as if one's fingertips were engaged, pulled apart by a force which acted through the wrists and then spread outwards and backwards as the hands and fingers might do. How different the phlox and delphinium! The first is so much

slower in effect, rising deliberately with its leaves arranged about it in absolutely symmetrical array; the other rushes up, the lower leaves widely spaced so that they make little showing, then closer and closer together, coming at last to the crowded head of bloom, a crescendo of movement made apparent by the reduction in size of the units and the simultaneous crowding and intensification of color. The anchusa is another type in that it springs from the crown of the plant with a curve, a bit resting on the ground and then curving up into its growth and final burst of flowering. And so examples might be multiplied.

With woody plants, the annual growth is so slight as compared with the mass of the plant that one rarely feels the motion of growth as with the lesser plants, but it appears during those delightful days in spring when the young shoots with their tiny leaves have covered tree and shrub with a haze of color that foretells the coming summer and yet does not hide the structure of the plant that winter has revealed. The architecture of the winter skeleton is laid bare. The significant curves and lines of the branches are not obscured, but are reinforced by the delightful and tender accents that terminate the lines. Painters everywhere love this time. It has the poetical imagery both of revealed character achieved and of promised fruition.

So the gardener with his affections set upon the spring and summer need not be too impatient for their coming, for the end of winter shows phases of plant beauty that are lost in the later development of flowers and leaves, and if he is concerned as I think he should be with more than the mere cultivation of the plants he loves he will discover a realm of poetic appreciation which may carry him far afield in other avenues of human endeavor, for the eye is the open door through which the artist gathers the material for his handiwork.

B. Y. M.

The American Horticultural Society

A Union of The National Horticultural Society and The American Horticultural Society

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