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The Hahlia

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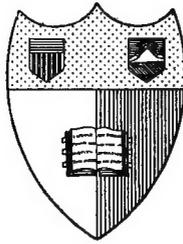


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The
Dahlia

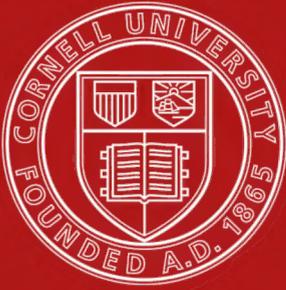
by

Lawrence K. Peacock.



New York
State College of Agriculture
At Cornell University
Ithaca, N. Y.

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Minnie Burgle

This is truly the "National American Dahlia," raised by the gardener of the Mare Island Navy Yard, San Francisco, and an honor to "Uncle Sam" as well as the raiser, who named it Mrs. Mina Burgle, in honor of his wife. Unfortunately it was sent out as Minnie Burgle, Mrs. Mina Burgess and other names.

We are glad to credit Mr. Burgle the honor of producing the best all-around red dahlia in cultivation. A strong, vigorous grower, early, continuous and free bloomer, a good keeper and root maker; in addition to its large size, fine form and vivid color. It deserves a place in every American collection.

THE DAHLIA

A PRACTICAL TREATISE

ON

ITS HABITS, CHARACTERISTICS, CULTIVATION
AND HISTORY

BY

LAWRENCE K. PEACOCK

BEAUTIFULLY ILLUSTRATED

FIFTH EDITION

PUBLISHED BY
PEACOCK DAHLIA FARMS

BERLIN, N. J., U. S. A.



PÆONY FLOWERED DAHLIA, MRS. WM. KERR

Showing its natural habit of blooming in clusters of three: showing bud, half opened, and fully-developed flower. Comparison with foliage shows the large size; you can conceive the result when disbudded

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Introduction

THE progress made in floriculture in America during recent years is almost past comprehension. Great floral establishments, aggregating hundreds, if not thousands, of acres of glass, have been reared with marvelous rapidity. Hundreds of thousands of acres are annually devoted exclusively to the cultivation of flowers. Thousands of horticultural clubs and societies have been formed for the purpose of holding exhibitions and further developing floriculture, with most gratifying results. Everywhere greater attention is given, not only to the flower garden, but the floral decorations of the lawn. Nor does this interest stop with the autumn frosts and wintry blasts. Flowers are so greatly appreciated that conservatories are erected and window gardens are prepared, that blooming plants may always be near to gladden the heavy hearts and revive the drooping spirit when troubles come or cares oppress. They are rapidly becoming such a necessary luxury that many cannot and will not be content without them. They are, indeed, the joy alike of the rich and the poor, the old and the young; in success or in adversity they are ever our friends, gratefully repaying our small attentions with their profusion of bloom.

At the beginning of each year we dream of delightful grounds and beautiful flowers—flowers for all purposes—flowers so beautiful that our homes promise to be, indeed, a paradise of surpassing loveliness. Our dreams are more than realized during May and June, when we find roses, flowering shrubs, and bulbs in endless variety, to say nothing of other flowers, blooming everywhere in the greatest profusion. But our dreams do not last. June and our flowers, at least most of them, bid us adieu. It is now that we need a first-class flower that will fill our empty vases, beautify our lawns; in fact a flower that will completely fill the space between roses and chrysanthemums, when other good flowers are not plentiful. Flower after flower has been tried until at last it became evident that the "Dahlia" was the only flower having the proper qualifications. As soon as this fact was realized, interest was at once aroused; skilled specialists began producing exquisite varieties, and the Dahlia entered on a new era of popularity.

Not only have the older forms and classes been improved, but new types have been produced for special purposes. The most important of these new types are the Cactus, Decorative and Paeony Flowering varieties, which, with their exquisite forms, superb colors, beautifully blended shades and tints, have only to be seen to become favorites with all. Dahlias are of the easiest culture; yet there are drawbacks to their successful cultivation by the amateur. Many devote

considerable time and expense to their culture, and fail to get the best results, simply because their well meant intentions were not beneficial, to say the least. The Dahlia can be grown to perfection in every garden with but little care and expense, if attention is given to its simple requirements.

There are, however, few American works on the subject from which the amateur can secure needed information, while foreign works are of little value, owing to the difference in soil and climatic conditions. It is to supply this long felt want and to enable every one to grow lovely Dahlias, even under adverse conditions, that the writer presents this small treatise to the American public.

In the following chapters can be found, in a clear and concise form, such information as has been gleaned from years of practical experience. Particular stress has been laid on several facts, especially upon the necessity of frequent stirring of the surface soil to prevent excessive evaporation of moisture. Many think the only necessity of cultivation is to keep down the weeds; but, positively, weeds do little more harm than hard baked surface soil. The illustrations herein given speak volumes for themselves on this subject; the field views and specimen plants are reproduced from photographs taken right out in the field; in many cases after long periods of extended drought, and are intended to show that Dahlias *can* be grown successfully, even under adverse conditions, rather than *what* can be grown, all things favorable. It is the aim of the writer to make the path to successful Dahlia culture so pleasant and easy that all may wish to travel it, knowing full well that once they are planted the pleasure derived will be so great that they will ever after be cultivated and highly prized. Neither labor nor expense has been spared in making this little treatise attractive, useful, and true to nature, that it may receive a cordial welcome in every flower-loving home.



CHAPTER I

THE DAHLIA.

THE Dahlia (*Dahlia Variabilis* of Linnæus) is a tender tuberous rooted perennial, a native of Mexico, and was first discovered by Baron Humboldt in 1789. It was sent by him to Prof. Cavenilles, of the Botanical Gardens, Madrid, who named it Dahlia, in honor of the celebrated Swedish botanist, Prof. Andrew Dahl. It was introduced into England in the same year (1789) by the Marchioness of Bute, who secured a plant from Prof. Cavenilles. Although this plant was grown under glass and received the greatest care, the stock was finally lost, and it was reintroduced into England by Lady Holland in 1804. In France, Spain and Germany the Dahlia also received great attention, and to this day is still prized as one of their finest summer and autumn blooming plants. Although other species were found and introduced from Mexico, yet it is remarkable that they should not hybridize and, except *D. Coccinea*, Cav., were not generally grown. Both *D. Variabilis* and *D. Coccinea* broke into numerous colors and became general favorites with the botanists and gardeners, who raised many new varieties from selected seed. A great impetus was given Dahlia culture in 1814, with the introduction of the first double variety.

To fully realize the wonderful progress made in Dahlias and to get even a faint impression of the possibilities in this most remarkable of all flowers, it is well to remember that only one hundred and two years ago we had nothing but the single type with large yellow centers and one variety with two rows of petals.

Could Humboldt, Cavenilles or Dahl have dreamed of a development in one century as is shown by the illustrations herein? And here is the principal charm in Dahlia growing. There is always action, always something new. We cannot remain discouraged, for we know of the future development by the past, and who can tell what the next break will bring forth or how far the development will proceed along the present lines. If you fail to produce a marvel, some other of the hundreds of thousands of growers are sure to, and in a comparatively short time you can grow and enjoy its beauty just as well as if you had produced it.

Though the Dahlia was found so close to the United States, as is usually the case, it was not introduced directly from Mexico, but was shortly afterward introduced from England in the form of several improved varieties. In America, as in Europe, the Dahlia soon became a great favorite and was universally grown.

There is one peculiarity that must not be overlooked; during thirty to forty years of constant improvement the one aim was to produce perfectly double, regular, ball-shaped flowers; the nearer a perfect ball they were the more highly they were prized. This type had by 1840 reached almost perfection, and was the only type considered worth growing. At this time, and for many years afterward, the Dahlia was the favorite garden plant with amateurs, gardeners and florists.

But as the demand seemed to be assured, the seedsman and florists continued to grow mainly the single and show or ball-shaped varieties, and when they had reached what they thought was perfection in those types, ceased to strive after new varieties and forms, but continued to grow and offer the same varieties from year to year. This was followed by a decline in the demand for roots, as some had become tired of the stiff form of the old varieties, and others having a complete collection of what was offered, began to look to other flowers for something new. Under these conditions, which were brought about by the florists themselves, the Dahlia received less and less attention as the years went by. In fact, this neglect went so far that at last it was almost impossible to secure good varieties true to name. To illustrate, I will give a few instances out of the many that has been brought to my attention. In one instance three



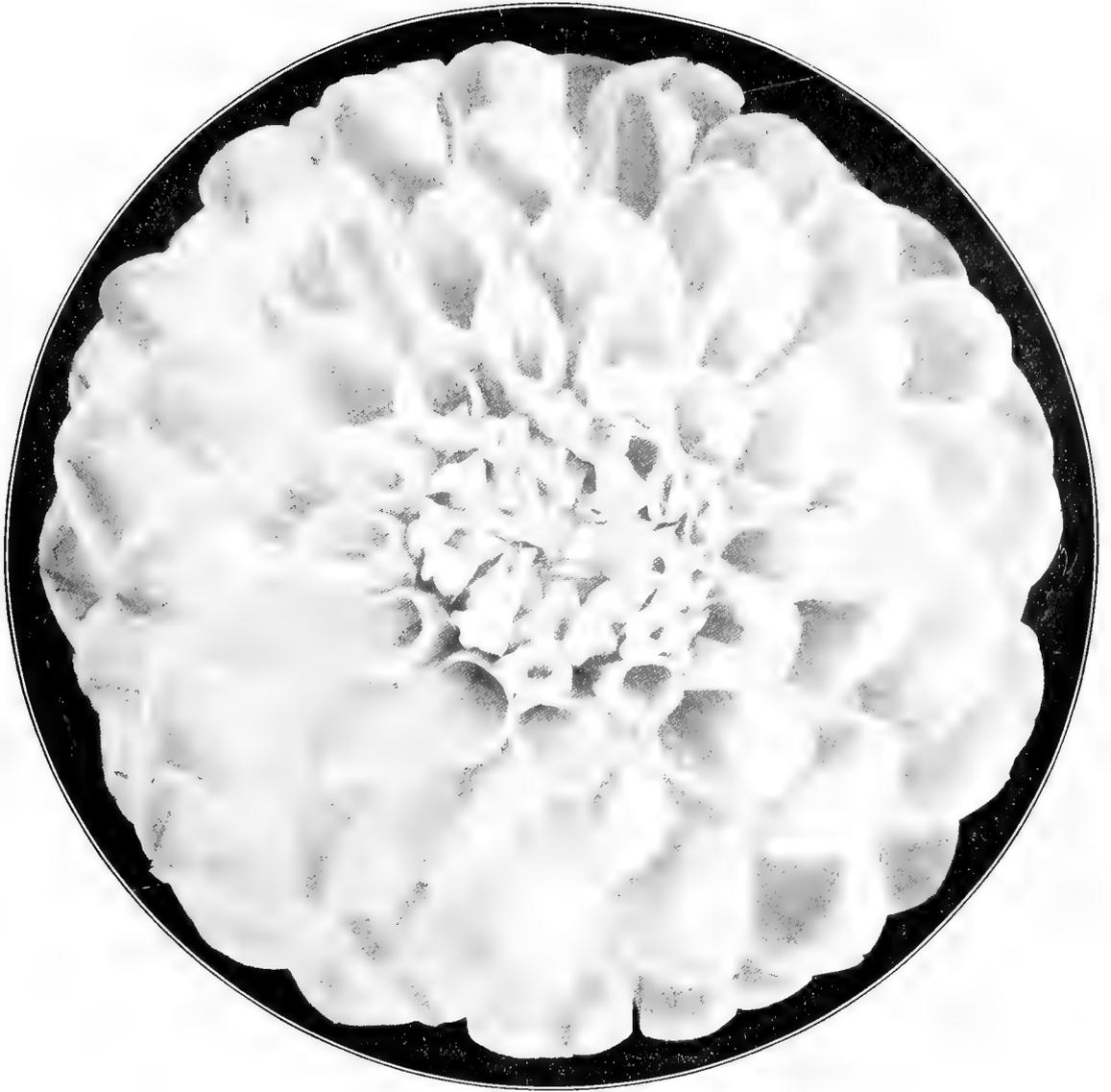
MME. J. COISSARD.

The ideal type of Duplex Dahlias and the best variety to date

growers offered the same variety under three different names, while in another case one variety was sent out under nineteen different names by the same concern. I, myself, a few years ago, bought five large collections from as many different firms, and in some cases had several varieties under the same name, and in others had the same variety under several different names, while many varieties were entirely worthless. Of course we must be charitable enough to believe it was carelessness only, yet such neglect is almost criminal when we consider its evil results.

Fortunately, however, during this time the Dahlia was undergoing a complete transformation in Europe, especially in England, where new types and forms were being produced to conform to the prevalent demand for loose, graceful flowers. The term "loose" is not used to denote semi-double or open center flowers, but to distinguish them from the solid compact form of the old varieties.

The cactus was first in the form of Juarezzi, which was called a cactus Dahlia on account



NEW PINK SHOW DAHLIA, DOROTHY PEACOCK

of its resemblance to the red cactus of the plains. As this strain developed it was divided, the broad, reflex petaled sorts were called Decorative and those with pointed petals called Cactus.

None of these first varieties would now be called a true cactus (see classification), but other classes came quickly. The Century, a race of giant single, developed from the giant Decorative types; the Duplex, a double or two-row Century; the Pæony flowered, Collarette, and Anemone.

As soon as some of these finer varieties were introduced, interest was at once revived, and as a result we now have specialists who equal, at least, the foreign growers in the production of superior varieties. But owing to the decadence of the Dahlia trade, through multiplicity of names and inferiority of varieties, it soon became evident to these specialists that they must work together, shoulder to shoulder, if they wished to thoroughly popularize the Dahlia. At the suggestion of several amateur admirers of the Dahlia, one of these specialists undertook the



DAHLIAMUM (CHRYSANTHEMUM-SHAPED DAHLIA). ANOTHER NEW BREAK IN
THE DAHLIA

formation of a national society, and the "American Dahlia Society," which is fully described in a succeeding chapter, was the gratifying result.

That the proper course was taken is conclusively proven from the fact that the demand has increased fully twenty-five per cent. each year, and that the demand was mainly for new and distinct varieties, while the seedsman and florists at last awakened to the necessity of offering only the best varieties true to name. Dahlias now form the chief cut-flower stock of the florist during their season in September and October, when hundreds of thousands are used daily for all floral purposes, many times at a far higher price than for roses.

There is really no other flower that will give so much pleasure for so little care and expense. It combines more good qualities than any other flower. It can be grown in the open ground, where it can be had in perfection by everyone from June until frost. In form as in size there is a greater diversity than can be imagined by those unacquainted with its many and newer types.



UNIQUE DAHLIA FORM

The plant is a strong, robust grower, and such a gross feeder that it will grow in any kind of soil if given proper nutriment. To illustrate how readily they will grow and bloom, where large clumps are used, I will give an experience we had a few years ago.

After planting our Dahlias and while cleaning up the cellar I came across some very large clumps that had been set aside. Finding that they were mixed roots, and having planted all we wished, I ordered them to be thrown on the waste pile, which was to be hauled away to help fill up a large washout. I had intended to have this washout filled up at once, but we were all busy and it went on until July, when, happening along one day, I saw several beautiful blooms of the Dahlia, "Mrs. Dexter." To say I was surprised is putting it mildly. Several loads of all kinds of rubbish had been dumped right down on the hard, yellow subsoil bottom, and growing here without any attention the plants were strong and vigorous, while the flowers were as fine as I ever saw. It had been a wet season, and as the shoots from the large clumps were so strong, they came through nearly two feet of trash, growing luxuriantly.

While in the Dahlia can be found not only every color except blue, and every intermediate shade and tint, from the softest to the richest, but the most beautiful combinations of colors and marvelous blendings of shades and tints, yet it is this ease of culture, combined with its varied habits and adaptability to conditions, that makes the plant most valuable and popular. The varieties, both double and single, grow from twelve inches to fifteen feet high. Between these two extremes are the dwarf, the semi-dwarf and the standard or tall varieties. The gardener can thus select varieties of any height or habit desired for any special purpose, such as bedding, massing or banking, for borders of any height, or for specimen plants for the lawn. As a cut flower, whether for bouquets, decorations, or exhibition purposes, the Dahlia is unsurpassed, owing to the great diversity of form and the brilliant lustre of the colors. In size they vary, from the smallest of the Pompon, growing but one-half inch across, to the largest of the Show and Cactus varieties. Specimen blooms of the largest of these latter varieties have been grown seven to nine inches in diameter on stems three feet long. Such is the history and a few of the main characteristics of a plant that has been grown and improved for little more than a century, and is to-day, wherever the finer varieties are known, the most popular summer and autumn blooming plant in cultivation.

Possibly no other plant shows the skill of the florist to such a marked degree, and taking the wonderful improvements of the last few years as a criterion, we may well ask how far the specialist can carry his skill. Unlike many other plants, its vigor seems to keep apace with its other improvements, and, as we consider these things, we must admit that the possibilities of the Dahlia in the future are almost limitless. If you admire beautiful flowers and want them in profusion from June until frost, plant Dahlias and you will be delighted. No matter how many other plants may fail to thrive, or whether the season is wet or dry, you can grow them successfully if you but heed their simple requirements.

Bedding.—Gardeners are now beginning to realize the great possibilities of the Dahlia as a bedding plant. For this purpose they must be of strong, sturdy, branching growth, and profuse bloomers, while the flowers must be of good substance, rich and brilliant colors, and be able to withstand the hot summer sun without fading. The height of the plant will depend on the kind of bedding; tall and semi-dwarf varieties for large beds, and dwarf sorts for small beds or for low bedding purposes. Some very attractive beds have been grown by planting tall varieties in the center, around which were planted rows of proportionately dwarfer varieties. These rows may be of dwarfer varieties of the same color, or may be of different colors as desired, there being no limit to the possible arrangements or combinations, owing to the numerous good varieties at command.

Specimen Plants.—This is one of the most pleasing and valuable forms in which the Dahlia is grown, and, perhaps, the most popular. Any of the free blooming varieties will produce fine specimen plants, if large roots are planted, but one shoot allowed to grow, and that pinched off and forced to branch at the surface of the ground; though on small grounds the dwarf or bedding varieties are generally grown. By selecting different varieties they may be grown to all sizes, and well-grown specimens of some of the newer varieties is an entrancingly lovely sight and one long to be remembered.

Borders and Hedges.—Along open and exposed walks and driveways Dahlias are sometimes planted with excellent results. They may all be of one color, or of different colored varieties of same height and habit, according to the taste of the grower. Another useful purpose is to grow them in hedge form around the garden, or anywhere a hedge is desired, and it is impossible to imagine anything lovelier. Just think of a garden enclosed on every side by a hedge four feet high, two and a half feet wide and completely enveloped with beautiful flowers of the loveliest shades, from the softest to the richest! Nor is this picture overdrawn. It is impossible to convey with the pen the great beauty of the scene just described, and it is the wish of the writer that every reader of this little work could have beheld this scene, just as the writer did one beautiful September morning about three years ago.



CHAPTER II

CLASSIFICATION.

IT IS doubtful if two persons would classify Dahlias exactly alike. Too many classes are confusing. It is better to have fewer classes even if those classes are sub-divided into sections or groups. As there is safety in numbers, the writer will give the classification as adopted by the American Dahlia Society.

1. *Cactus Dahlias.*

A. True, Fluted Type: Flowers fully double; floral rays ("petals") long, narrow, incurved or twisted, with sharp, divided or fluted points and with revolute ("rolled back") margins, forming, in the outer florets, a more or less perfect tube for more than half the length of the ray.

Typical examples: Snowdon, T. G. Baker, Mrs. Douglas Fleming, J. H. Jackson, H. H. Thomas and Rev. T. W. Jamieson.

B. Hybrid Cactus or Semi-Cactus Type: Flowers fully double; floral rays ("petals") short as compared with previous type, broad, flat, recurved or twisted, not sharply pointed except when tips are divided ("staghorn"), margins only slightly revolute ("rolled back"), and tubes of outer florets, if any, less than half the length of the ray.

Typical examples: Master Carl, Perle de Lyon, Flora, Mrs. J. P. Mace, Kalif and Rheinekönig.

2. *Decorative Dahlias.*

Double flowers, full to center in early season, flat rather than ball-shaped, with broad, flat, somewhat loosely arranged floral rays ("petals") with broad points or rounded tips which are straight or decurved (turned down or back), not incurved, and with margins revolute (rolled back) if rolled at all.

Includes forms like those of *Souvenir de Gustave Douzon*, *Jeanne Charmet*, *LeGrand Manitou*, *Delice*, *Lyndhurst* and *Bertha Von Suttner*; but *does not* include *Le Colosse*, *Mrs. Roosevelt*, *Dreer's White*, *Grand Duke Alexis* or similar forms, which fall into section B of the ball-shaped double Dahlias.



NEW DECORATIVE DAHLIA, MELODY



NEW HYBRID DECORATIVE DAHLIA, MRS. C. H. BRECK

3. *Ball-Shaped Double Dahlias.*

A. Show Type: Double flowers, globular or ball-shaped rather than broad or flat, full to center, showing regular spiral arrangement of florets; floral rays more or less quilled or with markedly involute (rolled in) margins and rounded tips.

(The class called Fancy Dahlias is not recognized separately in this classification, but is included in this Sub-section A.)

Typical examples of Show Dahlias: Arabella, Dorothy Peacock, Gold Medal, John Walker, Colonist and A. D. Livoni.

B. Hybrid Show, Giant Show or Colossal Type: Flowers fully double, broadly hemispherical to flatly globular in form, loosely built so spiral arrangement of florets is not immediately evident; floral rays ("petals") broad, heavy, cupped or quilled, with rounded tips and involute (rolled in or forward) margins.

Typical examples: Grand Duke Alexis, Cuban Giant, Mrs. Roosevelt, Le Colosse, W. W. Rawson and Golden West.



MRS. J. P. MACE

bud, with petals in more than one row, more than 12, long and flat, or broad and rounded, not noticeably twisted or curled. (Many so-called Pæony flowered Dahlias belong here.)

Typical examples: Big Chief, Souv de Franz Liszt, Merry Widow, Sensation, Prairie Fire and Mme. J. Coissard.

6. *Single Dahlias.*

Open centered flowers, small to very large, with eight to twelve floral rays ("petals") more or less in one circle, margins often de-curved (turned down or back). There are no distinctions as to colors. The type embraces the large Twentieth Century as well as the smaller English varieties.

Typical examples: White Century, Golden Century, Scarlet Century, Newport Marvel (of the large-flowered forms) with Polly Eccles, Leslie Seale, Danish Cross and Ami Barillet (of the lesser flowered forms).

The Star singles and Cactus singles are omitted from the present classification scheme as not being sufficiently numerous or well defined yet.

C. Pompon Type: Shape and color may be same as of A or B, but must be under two inches in diameter.

Typical examples: Fairy Queen, Belle of Springfield, Darkest of All, Nerissa, Little Herman and Snowclad.

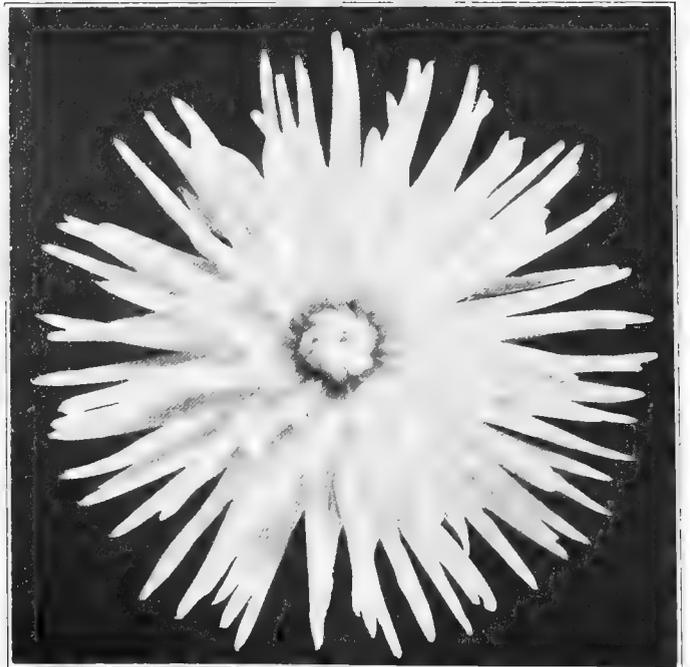
4. *Pæony-Flowered or "Art" Dahlias.*

Semi-double flowers with open center, the inner floral rays ("petals") being usually curled or twisted, the other or outer petals being either flat or more or less irregular.

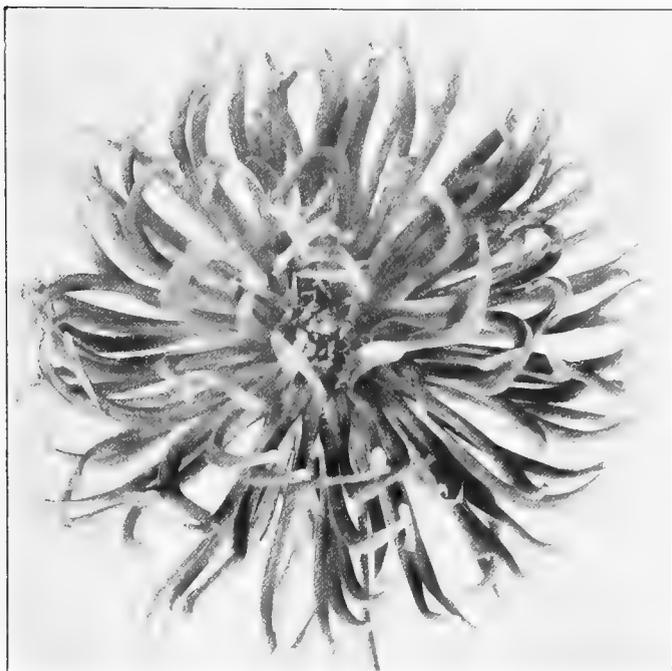
Typical examples: Queen Wilhelmina, Geisha, Hampton Court, Mrs. W. Kerr, P. W. Janssen, and Glory of Baarn.

5. *Duplex Dahlias.*

Semi-double flowers, with center always exposed on opening of



MARJORIE CASTLETON



C. H. CURTIS

7. *Collarette Dahlias.*

Open centered blossoms with not more than nine floral rays ("petals"), with one or more smaller rays, usually of a different color, from heart of each ray floret, making a collar about the disk.

Typical examples: Maurice Rivoire, Souvenir de Chabanne, Diadem, Orphee, Madame Poirier and Albert Maumene.

8. *Anemone-flowered Dahlias.*

Flowers with one row of large floral rays ("petals") like single Dahlias, but with each disk flower producing small, tubular petals.

Includes such forms as those of Graziella, Mme. Chas. Molin, Messiner and Mme. Pierre Dupont.

9. *Other Sections.*

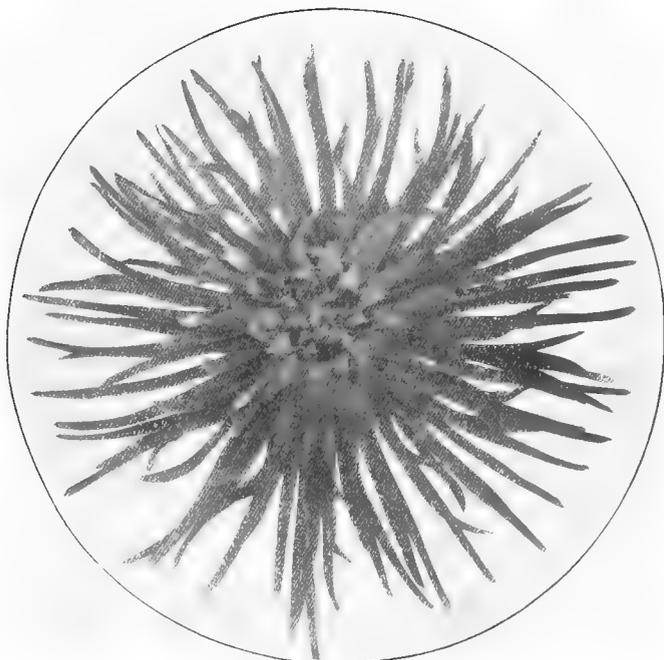
Miniature or Pompom Cactus: Small flowered, stellate fine petaled Cactus Dahlias represented by Tom-tit, Mary, Nora, Minima. *Mignon or Tom Thumb:* Dwarf, bushy, single flowered Dahlias for edging.

Typical examples: Jules Closson. *Bedding Dahlia:* A taller, more upright type than the Tom Thumb. *Typical examples:* Barlow's Bedder and Midget Improved. *Cockade of Zonal Dahlias:* Single or collarette Dahlias, with three distinct bands of color about center. Type hardly known in America, but includes such forms as those of Cockade Espagnole.

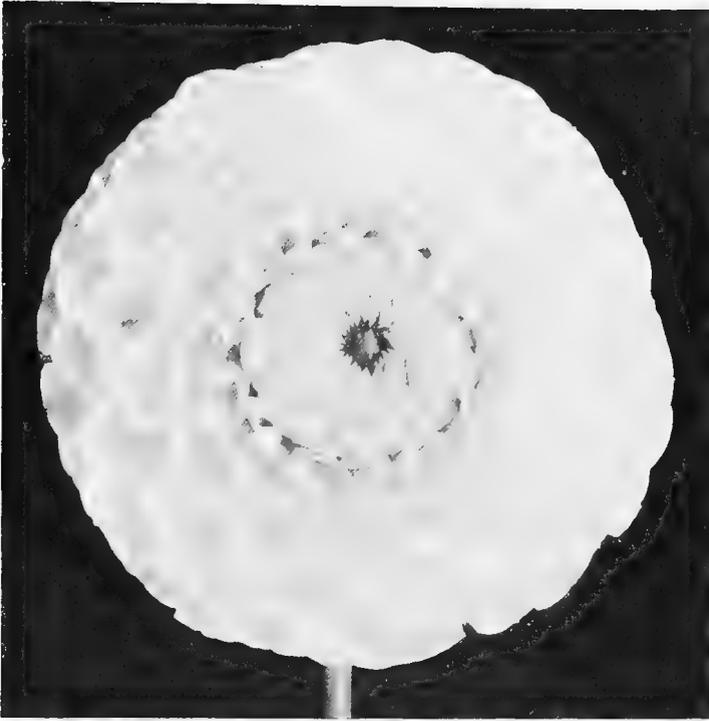
In the above classification too little attention was given to the Single Dahlia. The various classes and types range in size from 2 inches to 10 inches in diameter, and a still greater variation in form, type, etc.

The Century is the most valuable section and the new intermediate varieties must be classified as self-colored, zonale, penciled, margined, etc.

Double Dahlias are classified according to form. Single Dahlias must be classified by size and color markings.



H. SHOESMITH



NEW WHITE SHOW DAHLIA, ETHEL MAULE

these types, as much as it was a mistake to an open-center type Pæony flowered, as the general conception of the Pæony is a fully double flower, and the near future will show the ideal, perfectly full or double Pæony Dahlia. This type is already in existence with a row long, broad rays or petals and the shorter more irregular center petals.

It would seem, therefore, that in the future the present classes would be subdivided into sections in order to encourage the development of distinctively new, novel or unique types, as well as the development of the existing classes.

SWEET-SCENTED DAHLIAS.

This is a field that offers great opportunity. Twentieth Century and Fringed Twentieth Century are notable examples, and there are many other varieties that are more or less fragrant. The great trouble is that breeders look for distinctive flowers of large size, fine form, etc., while as a matter of fact the only clove-scented Dahlias the writer has seen were nondescript blooms in the different ball and single classes.

The American Dahlia Society has done wonderfully well since its reorganization, and the near future will undoubtedly see a yearly prize for the most distinctive new variety of the year as well as the best, as within these two lines depend the interest and future popularity of the Dahlia.



DAHLIA, VIRGINIA MAULE

In connection with the above classification, it may be well to call attention to the particular wording. The classes are described and defined by typical examples; but it is not safe to go indiscriminately by names, as many varieties vary at times. Therefore it is well in entering at exhibitions to remember that name alone will not carry a variety through, but the flower must conform to the standard of that class, and any flower that does conform to that class should be eligible.

Then there are the many other types that will undoubtedly be taken care of in the future. For instance, there has been a general idea that all open centered flowers are Pæony-flowering. It would be a mistake to make a separate class for each of

CHAPTER III

PROPAGATION.

THERE are four methods by which Dahlias are propagated—by cuttings, division of roots, and by grafting to perpetuate existing kinds, and by seeds to produce new varieties.

Division of Roots.—This is the easiest and most satisfactory to amateurs, and is so simple as to scarcely need description. As the eyes are not on the individual tubers, but on the crown to which the tubers are attached, care must be taken that each division has at least one eye. It is, therefore, best to start the eyes by placing the roots in a warm, moist place a short time before dividing. The roots are sometimes placed in a hot-bed, and the shoots grown to considerable size, then divided and set out as plants; but as this plan has many drawbacks, I would not advise it.

By Cuttings.—This method is used mainly by commercial growers, and though the amateur may easily propagate plants successfully, the attention a few cuttings would require would be so great that it would be cheaper to buy the plants. However, as it may be of interest to some, I will describe how Dahlias are propagated by this method on commercial places. The roots are planted closely in benches in the greenhouse early in January, and cuttings are made from the young shoots as fast as they form the third or fourth set of leaves. These cuttings are carefully trimmed and placed in pure sand in the propagating bench, using a dibble, and putting the cuttings in rows two or three inches apart and about a half inch between the cuttings. The propagating bench is made by running a flue, hot water or steam pipes beneath an ordinary bench, and boarding up the sides to confine the heat. Although there may be a difference of opinion among propagators, yet a bottom or sand heat of 65 degrees, with the temperature of the house from 5 to 10 degrees less, will give the best practical results. With this temperature the cuttings will root in about two weeks and will be far stronger than if rooted in less time with greater heat. As soon as the cuttings are rooted they are potted off into small pots and grown in a cool greenhouse until danger of frost is over, when they are planted out in the open ground.

By Grafting.—This is a very interesting, though not profitable, mode of propagation. The top of the tuber is cut slantingly upward, and the cutting slantingly downward, placed together and tied with any soft, handy material. They are then planted in a pot deep enough to cover the lower part of the graft with earth, and they will soon adhere if placed under a hand glass or in a frame. But as grafting has no advantages over the ordinary mode of propagation by cuttings, it is seldom practiced.

By Seeds.—Though many grow Dahlias from seed instead of planting roots, yet seeds are generally planted to produce new varieties only. This being the case, the matter will be fully treated in another chapter under the head of new varieties.

Excessive Propagation.—I know of no other name for it, and must say that whoever is guilty of it is doing a great deal of harm to Dahlia culture. By excessive propagation is meant the forcing under glass not only of the roots but plants grown from the roots, often two or three times removed. In this way many good varieties are so run down that they come absolutely single, and it takes a year or two for them to recover their old-time vigor. Especially do florists make a mistake in forcing their new introductions in this way, as they always lose in the end.

A number of years ago a firm in England introduced a very fine Dahlia, and to meet the enormous demand the stock was forced under great heat; as a result the cuttings were so weak that they made poor, delicate plants, and the few flowers produced had large open centers, many being almost perfectly single. Consequently every one was disappointed and considerable money

was refunded. Now mark the sequel. The next year the flowers came perfectly double again, but it was too late for the introducers; they had paid the penalty of their excessive greed.

There are many reasons why these facts should be known by all who grow Dahlias, though the main reason is that every variety will be grown at least two years, and not discarded because they fail to come perfectly full the first year. Had this fact been universally known, it would have saved considerable loss and disappointment, as, undoubtedly, many sorts discarded in the past were really fine varieties. Therefore, if you purchase a new highly praised variety and it should not answer quite to the description, do not condemn it too soon, but grow it at least two more years. During this time it will, if properly cultivated, show its true characteristics; and if it still proves inferior, write to the source from which it was secured, making your complaints.

If this practice of waiting a year or two was always followed, many complaints would never be written at all, as varieties are very apt to vary under different conditions and according to the seasons. A variety may be pure white this year, yet come tinted pink next, and *vice versa*. As an example I will mention the Decorative-Cactus Dahlia "Nymphæa." This variety, under favorable conditions, is of a beautiful, clear, light shrimp pink color, and has a delicate refined Water Lily fragrance, but is devoid of fragrance and almost pure white during an excessively wet, cold and cloudy season, or very late in the autumn. Of course if an entirely distinct variety is received it is something else, and a complaint together with a flower should be sent at once.

Division of roots is not only the easiest and best, but far the cheapest of the three methods of propagation, and the one followed, as far as possible by all growers. However, with new or rare varieties, where it is not so much cost as quantity, division is entirely inadequate to the occasion, as it would take several years to secure even a limited stock. Accordingly, new and rare varieties are propagated from cuttings and offered as plants, or are grown another year and offered as field, or pot roots, at a price within the reach of all. It will thus be seen that a thorough knowledge of the art of propagation is very useful, but that evil will always result from its being carried too far.

In buying Dahlias it is always wise to give strong field roots the preference, as they give the best results the first year; but, as the roots are easily kept from year to year, the main object is to get the best varieties, regardless of the form in which they are offered.

It is well to state here that in some instances claims are made that the best results can be obtained from plants, and, in other cases, that huge roots only will give the best results. This is largely a matter of opinion and conditions, but I cannot give too strong a warning against planting the same old roots from year to year. I would rather have a very small young root or bulb than a very large old root. I have seen Dahlias grown and handled carelessly for several years; each year the new roots were broken and the old root planted until when they reached us some tubers weighed several pounds each; a series of crowns with eyes were on each of these monster bulbs (not clumps of roots). We cut off two-thirds of the bulb and split the top section remaining to eyes, leaving in this way only enough to start the plant off, which immediately made new tubers, and we harvested a splendid crop of young stock.

These huge, several-year-old roots are generally hollow in the center if not actually decaying. They send very strong shoots, but as they furnish so much to the plant quickly, it does not throw out such strong, vigorous roots of its own, and is particularly susceptible to heat, drought or any other unfavorable condition.

For the strongest and most sturdy plant you want the shoot to send out its own feeding roots, rather than to be nourished by the huge mother root. Therefore, in planting your Dahlias cut away the two or more year-old roots, using only the new ones, and see how much better they will grow.

This is of course on the basis that you have handled your roots carefully. If all the young roots have broken necks, you will have to plant the old one, but cut part of it away, so as to get a good strong plant on its own feeding roots.



CACTUS DAHLIA RADIUM

CHAPTER IV

POSITION, SOIL AND MANURE.

ONE of the most important points in Dahlia culture is to select a suitable location, for unless they are planted in an open situation, where they can get plenty of sun and air, the best results cannot be obtained. True, they will grow and give some blooms in almost any position, even where shaded by trees and buildings; but, as no plant is perfectly satisfactory except at its best, it is always advisable to give such position and conditions as will conduce to its highest state of development.

The best position for Dahlias is in the garden, where, with but little attention, they will grow luxuriantly and bloom profusely during the entire summer and autumn. The house can thus be filled with lovely flowers at a time when, owing to the scarcity of other flowers, they are most appreciated. Beside the garden, Dahlias may be planted along fences, singly or in groups on the lawn, and in beds of any size or form desired, with most pleasing results. A large group or bank of the profuse blooming varieties, planted in a corner or on one side of the grounds in such manner that each succeeding row is higher than the one before it, is most beautiful and effective.

Another favorite position is along an exposed walk or drive, where they may be planted on either side and make a very attractive border. It must be remembered that the Dahlia requires plenty of sunlight, air and water, and it will not grow vigorously or bloom profusely where these elements cannot be obtained.

If planted in the shade of buildings, they will make a tall but soft growth of plant and will bloom but sparingly; while in the shade of trees their position is even worse, as they are not only robbed of sunshine by the branches above, but of moisture by the roots beneath. Therefore, plant your Dahlias where nothing will obstruct the sunlight and the free circulation of air above, or rob them of moisture from beneath, and you have taken the most important steps toward their successful cultivation.

The soil is not so important, except in its ability to hold moisture during severe drouths. Any rich soil that will grow corn will also grow Dahlias to perfection, if all other conditions are favorable. They will grow equally well in clear sand, clay or gravel, if the proper kinds and quantities of plant food is added and thoroughly worked in. While Dahlias will adapt themselves to any soil, it may be well to state, however, that a good sandy loam is especially adapted to their culture, owing to its drouth resisting qualities. Yet this is not of great importance, as everything depends on the treatment given and the fertility, rather than the quality, of the soil.

Fertility goes hand in hand with position and is of great importance; for no matter where you plant your Dahlias or how good your treatment, they will not grow luxuriantly or bloom freely unless there is abundance of available plant food in the soil. The plants being strong, robust growers, are not particular as to what particular form or kind of fertilizer is given, provided it contains the necessary elements required for their development. Any kind of well rotted manure that is most convenient will give equally good results, if sufficient quantity is well worked into the soil.

It is always best to broadcast the manure and plow or spade it into the soil, while it is absolutely necessary if it is not well decomposed. On heavy, clay or gravelly soils, loose, coarse manure may be used (broadcasted and plowed or spaded in of course) with excellent results, as it lightens the soil and allows a freer root growth, but on light or sandy soils the manure should always be fine and well rotted.

Commercial fertilizers are also largely used, and are most valuable when used in connection

with manure. Any good fertilizer, rich in ammonia and phosphoric acid with a liberal amount of potash, will answer at the time of planting, but as a top dressing later, I have found nothing that would equal pure bone meal and nitrate of soda in proportion—six parts bone and one part soda.

Of equal or greater importance is the handling of very rich soils, for if the soil is too rich, there will be too heavy a plant growth and consequent falling off in the quantity and quality of blooms. I cannot advise the amateur too strongly to withhold using any fertilizer whatever in planting if his soil is already very rich. Especially is this the case on heavy soil until the plants commence to bloom. This, however, is for the ordinary way of growing Dahlias.

If you disbud your plants as described in another chapter, it will make no difference how rich you make your soil. In fact it takes very rich soil to produce those 10- to 12-inch exhibition blooms.

A few years ago a friend wrote me that he wanted Dahlia blooms; for four years he had bushes only. In reply to my letter he sent a diagram of his place, located on the south side of a large grove. I suggested he dig a trench along his line and give his Dahlia bed a cheesecloth cover. He now takes first prizes. There is no place you cannot grow Dahlias if you will overcome the local obstacle.

If you want Dahlias under a maple tree you might have to build a concrete floor and sides for the bed, but with ample drainage you can grow fine Dahlias, particularly those tender varieties, like Cockatoo, that is liable to burn in the sun.



BALL DAHLIA, DOROTHY PEACOCK

CHAPTER V

GARDEN CULTIVATION.

THE garden is the place preëminently adapted to Dahlia culture. It is here that they may be grown, in all their loveliness, with so little care and expense that no lover of flowers can afford to be without them. They grow so luxuriantly and bloom so profusely that even a few plants, properly cared for, will furnish a fresh bouquet almost daily from June until frost, while a collection of the finer varieties are ever a source of great pleasure.

Dahlias are offered in five forms: Immense clumps, strong field roots, pot roots, green plants and seeds (see next page for comparative sizes). The clumps give the best results the first year, but are entirely too large and unwieldy for anything but a local trade. The strong field roots are the most valuable, as they can be easily and safely handled, and always give satisfactory results. Pot roots are largely used in the mailing trade, and, while they will not give as good results the first year, are valuable for shipping long distances where larger roots could not be profitably used, owing to heavy transportation charges.

Green plants are mainly used to make up any deficiency in the field crops, owing to unfavorable seasons, or an unusual demand for certain varieties. Many firms, who offer field roots only, send out strong green plants, rather than disappoint their customers by returning their money, after the supply of roots is exhausted. This I consider a very good plan, as the plants will bloom equally as well if they receive careful attention, and will make good roots for the following year.

There is a diversity of opinion as to the proper time to plant Dahlias, but I have always found it best to plant early, and would advise planting large, strong roots about two weeks before danger of frost is over. This would be, in the vicinity of Philadelphia, about April 15th, and as it takes from two to three weeks for them to get up through the ground, there will be no danger, while your plants will bloom that much earlier. It is best, however, not to plant small roots or green plants until danger of frost is over—in the vicinity of Philadelphia about the 1st of May to the 10th of May, according to the season. Therefore, a good rule to follow everywhere would be to plant small roots and green plants as soon as danger of frost is over and large roots about two weeks earlier.

However, if you wish special flowers, say, for exhibition in September, would advise planting about June 1st to 10th, and as late as July for exhibition blooms in October.

The first requisite of successful garden cultivation is to thoroughly stir the soil to considerable depth, and enrich it, if it is not already so, by broadcasting and plowing or spading in a good coat of well rotted manure. Too much stress cannot be placed upon the thorough preparation of the soil, as it not only allows the roots to go down deep after the moisture more readily during dry weather, but affords good drainage during excessive rains. Having prepared the soil as above, mark out rows four feet apart and six to eight inches deep, and plant the roots from eighteen inches to three feet apart in the row, according as you wish a solid row or specimen plants. If perfectly symmetrical specimen plants are wanted, they should be planted at least four feet apart each way, which allows plenty of room for the circulation of air between the plants and a larger surface from which they can draw nourishment and moisture.

SINGLE STEM BRANCHING SYSTEM.

Before covering the roots, spread a small shovelful of well rotted manure in each space between the roots, and a small handful of fertilizer to two spaces, taking care that the manure



Fig. 1. Green Plant.

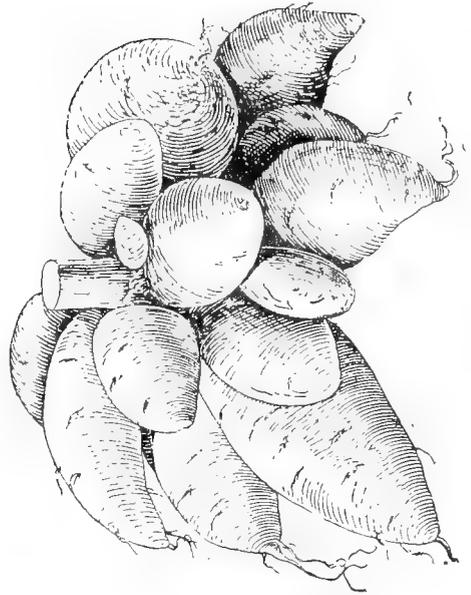


Fig. 2. Enormous Clump.

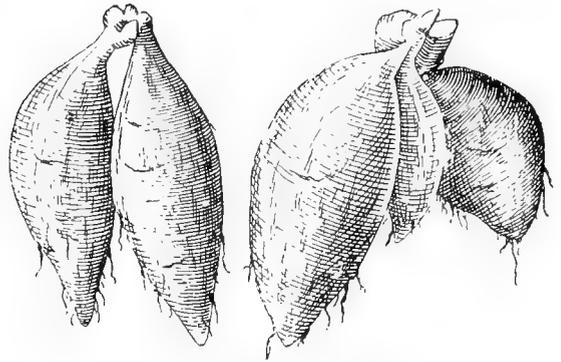


Fig. 3. Strong Field Roots.

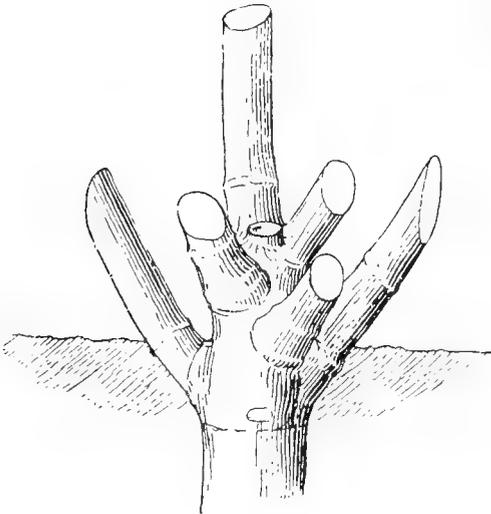


Fig. 4. Stem of Plant under New Single Stem Branching System.

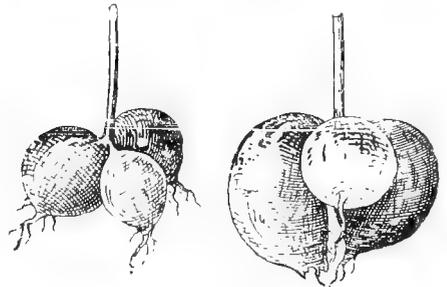


Fig 5. Pot Roots.

COMPARATIVE SIZES.

and fertilizer do not come in contact with the roots. This done, cover the rows with plow, hoe or any other convenient method. As soon as the shoots appear, remove all but the strongest one and pinch that one off, thus forcing it to branch at the surface of the ground. By this method the entire strength of the root and the soil is concentrated on the one shoot, causing it to grow vigorously; while the pinching or cutting back of the shoot not only causes it to branch at the surface and thus brace it against all storms without staking, but also removes all of those first imperfect, short-stemmed flowers that appear on some varieties. (See cut, page 25, showing how the plants branch, also illustration of field of Dahlias, page 6, grown under this system without staking.)

I am, I think, the first to use and advocate this method of cultivation, and, by its practice, have grown many thousands of Dahlia blooms on stems from eighteen inches to two feet long; selling them to florists, by the thousands, for four times the ruling price of carnations and higher than that asked for roses.

Another method of growing on single branched stems is fully described under the chapter of disbudding, and the result shown in the plant of John Wanamaker on page 35.

During its early stage of development the Dahlia grows very rapidly, and should be kept thoroughly cultivated; that is, the rows should be kept scrupulously clean by frequent hoeings, and the space between the rows frequently and deeply stirred. Among the many benefits thus derived is to make the plant root deeply, but it must be remembered that while deep cultivation is beneficial during its early stage of development, it is almost fatal to the production of flowers if practiced after the plants come into bloom. Therefore, when your plants commence to bloom, *cease deep cultivation and stir the soil to the depth of one or two inches only, but stir it often, and never allow the surface to become hard and baked.* This will not only prevent excessive evaporation of moisture and keep the under soil cool and moist, but will also prevent the destruction of immense quantities of feeding roots.

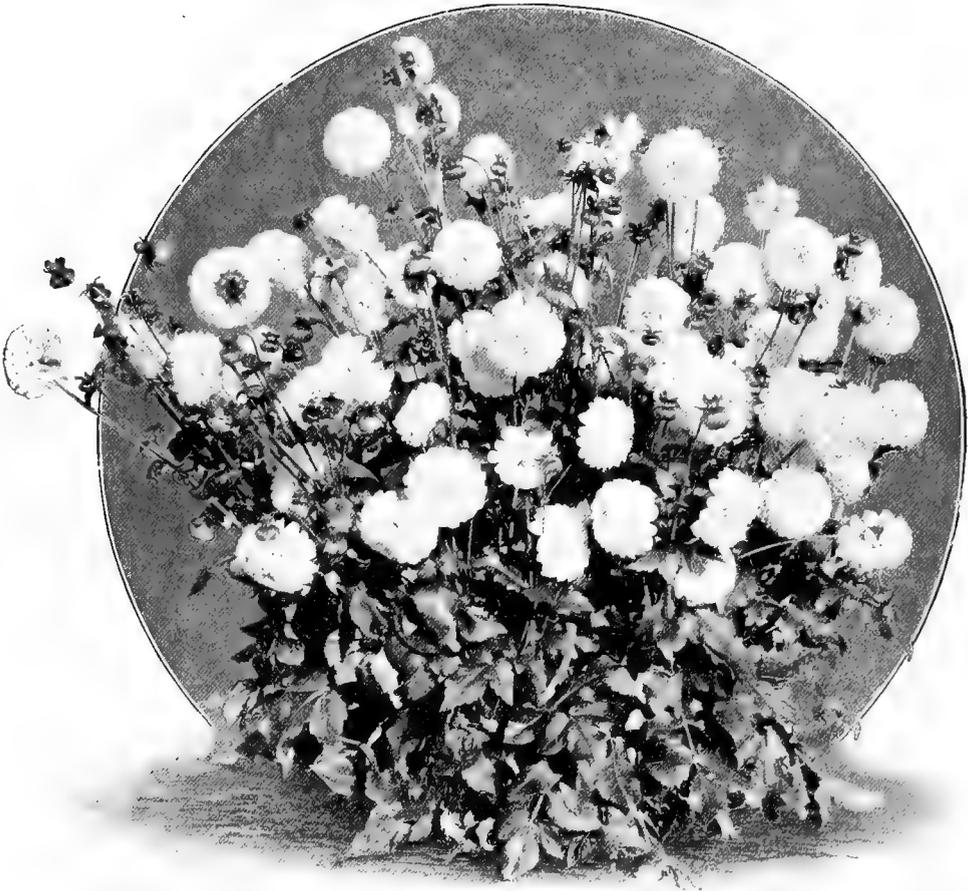
The nearer the directions for preparing the soil and planting the roots are followed, the longer the plants will continue to grow and bloom freely, for the roots push out in every direction in search of nourishment and moisture, thus forming a complete network of strong, vigorous feeding roots. This immense system of roots not only more than supply the needs of the plant, but enables it to withstand extreme droughts, owing to the large amount of moisture they hold in reserve.

As long as the roots supply more nourishment than is needed to support the plant, both the plant and the flowers increase in size and beauty; but as the supply gradually becomes exhausted, the plants cease growing and the flowers become much smaller. This condition is what is generally called "bloomed out," but what is really "starved out," and can easily be prevented if the proper attention is given to the plants. As soon as the flowers commence to grow smaller, broadcast around each plant a small handful of pure bone meal and nitrate of soda, in proportion six parts bone to one part soda, and carefully work it into the soil.

This will be carried down where the roots can reach it by the first rain, and will restore full vigor to the plants and size to the flowers. In the absence of above mixture, any good fertilizer rich in ammonia and phosphoric acid will give excellent results. This top dressing, and a thorough stirring of the soil from time to time as already advised, will insure an abundance of beautiful flowers until the plants are killed down by severe frosts.

As soon as the plants are killed by frost, lift the roots, and, after removing all the soil from them possible, allow them to dry in the air for a few hours, when they should be stored in the cellar or some other cool place secure from frost. If your cellar is very dry or is not frost proof, put the roots in a barrel or box and cover completely with dry sand or some other suitable and convenient material, such as saw dust or tan bark, to prevent freezing or loss of vitality by drying and shriveling. Roots handled in this way will keep safely over winter, and will be in excellent condition for planting the following spring.

Staking.—It has always been thought necessary to tie Dahlias up to stakes to prevent them



SNOW-WHITE SHOW DAHLIA—STORM KING (BLIZZARD)

From photograph taken of a specimen plant in full bloom. Grown under the single-stem branching system, as described herein

from being blown down by heavy winds, but how much more beautiful is a field or collection of Dahlias in full bloom without stakes. The system of staking is not only unsightly during the early stage of their growth, but is attended with considerable labor and expense. Staking, however, is unnecessary if the directions already given on page 26 are followed, as the plants will branch out at the surface of the ground and the stems will become so heavy as to resist the strongest winds. It may not be out of place to add that this is the best method for growing Dahlias, as the plants are one-third dwarfed, compact and regular in form, and produce much finer flowers on long stems well supplied with buds and foliage.

Watering.—This is a debatable subject, and although a judicious application of water during a severe dry spell is very beneficial, yet in nine cases out of every ten where water is applied a thorough stirring of the surface soil would give better results; not that I am opposed to watering where it can be done thoroughly and conveniently, but it is much better and easier to save the moisture already in the soil than it is to put moisture in the soil artificially after nature's supply has been wasted. The soil acts as capillary tubes, thus drawing the moisture to the surface, where, if unchecked, it is rapidly evaporated. If the surface is stirred this waste is prevented, as the dry loose soil completely seals those small tubes, and the moisture is held in reserve beneath until it is required and removed by the plant. It is really astonishing how long Dahlias will withstand the drought if they are not planted too closely and the soil is properly stirred.

Many people believe Dahlias should be watered every evening, and as soon as they are up commence watering them daily unless it rains. This practice is very injurious, as it causes a rapid but soft growth; and, as the soil is seldom stirred, the roots become so enfeebled for want of air that they are unable to supply the needs of the plant; as a consequence, but few buds are formed, and they generally blast before developing into flowers.

In other cases, as the enthusiasm wears off, watering is stopped, probably, right at the beginning of a severe drouth, and the weak, pampered plants are fortunate to survive, much less bloom.

If large, strong roots are planted and the soil is kept thoroughly stirred, there will be little need of artificial watering until after the plants come out in full bloom. However, if it should become hot and dry after your Dahlias come into bloom, it would, if convenient, be very beneficial to give them a *thorough* watering once each week or ten days during the continuance of the drouth. But care must be taken to *stir the soil to the depth of one to two inches the next day, carefully pulverizing it later, in order to seal those natural capillary tubes by which the moisture is evaporated.*

The best rule to follow is not to allow your plants to suffer from want of moisture, nor to water them except they need it, but to water them *thoroughly* when you do water them, and not to allow *excessive evaporation* for want of frequent stirring of the soil.

One of the chief sources of complaint from the amateur grower, namely, large plants and few or no blooms, can be avoided very easily. Generally this is caused by the soil being too rich, causing the plants to make large growths, and unless the season is very favorable for Dahlias and the best attention given, there is a very scant supply of blooms. In many cases the flowers open imperfectly, few flowers, under size and so forth. In our case, where the soil is very rich, it is best to simply plow or spade up the soil and plant Dahlias without any fertilizer or manure whatever. This will check the growth of the plants somewhat and cause them to bloom earlier, and as long as the flowers are of good size, no other nourishment is needed. Of course, after the flowers become smaller in size, it is well to give them a top dressing of some quick and active fertilizer, especially bone meal. Nitrate of soda should be avoided on any soil where there is a heavy growth of plant.

The object sought in growing Dahlias—fine, large flowers, and lots of them—is best obtained by feeding the flowers after the plant has developed rather than by feeding the plant before the flower appears.

All Dahlia blossoms should be cut before they have quite reached their best, unless for exhibition, and singles, which are quite shortlived, should be taken before they are fully unfolded, to insure satisfactory retention of petals. The pompon, show and fancy types, last longest after cutting, although many of the decoratives are excellent in this regard and some of the cactus and pæony-flowered types.

The singles are not good for continuous use in bouquets as the petals drop soon after cutting, if fully opened flowers are chosen.

The beauty and daintiness of these flowers render them admirable, however, for vase decoration for a dinner or a reception; and their freedom of bloom makes the frequent refilling of the vases in home decoration very easy. Collarette Dahlias seem to withstand wilting and hold their petals much better than the singles, although apparently differing from them so slightly.

Unfortunately too many of our handsomest cactus and pæony-flowered Dahlias are either weak-stemmed, requiring wiring for vase or bouquet use, or are too soft in texture to “hold-up” well after cutting. Breeders are now working, with success in sight in several cases, to overcome these faults, so we may soon hope to have many varieties as satisfactory in these respects as they are in color and form.

Pests.—Fortunately the Dahlia has few serious pests to contend with, though numerous diseases and insects may at times cause annoyance.

No diseases are discussed in any of the published works on the Dahlia, but the tubers occasionally rot in the field, though more frequently in storage, from the attack of fungi.

Recently there has been reported from various sections a peculiar dwarfing or stunting of plants from some unknown cause, probably from obscure physiological disturbance or from weather injury; and powdery mildew sometimes affects leaves and stems in late summer. This last trouble yields readily to spray treatment.

Insects and some other low forms of animal life are far more troublesome, but ordinarily not serious menaces to Dahlia culture.

In moist seasons and in localities where slugs have become common they are frequently very annoying, as they may eat the bud or the tender sprout below ground, or scrape the outer surface of the lower stem until it is practically girdled and the plant dies. They also occasionally climb the stem and feed on the younger leaves. As they are most active at night and crawl into holes or crevices in the ground or hide under stones or lumps of earth during the day it is necessary either to hunt them after sundown with a light or to adopt preventive measures. In capturing them a stick with a darning needle in the end is an effective weapon, from which they may be dropped into a can partly filled with kerosene. They may be driven from the ground about the plant by using a dilute solution of ammonium carbonate (0.75 per cent.) to wet the earth over a small area, and then captured, and it is probable that lime sulphur solution would act in the same way. They are very fond of bran, so handfuls of this may be used as traps to collect from, or a poisoned bran bait might prove effective where it could be used safely. Should slugs ever become numerous enough to threaten the foliage, spraying with arsenate of lead would be desirable. A few lettuce plants among the Dahlias make attractive food for the slugs and may prevent injury to the plants. Lime or dry ashes or naphthalene scattered in a small circle about the plant will keep slugs away, but the first two lose much of their effectiveness when wet.

The tarnished plant bug becomes a serious pest during dry, hot summers, when the succulence of the buds and blossoms tempts them from other food plants. When conditions have been right for the increase of these small gray-brown bugs (light green in early stages) they may cause the blighting or deformation of almost every bud by piercing the flower stalk or the base of the bud itself, and may spot and ruin the petals of the buds that do open. Little can be done to control these pests as they are sucking insects, so not subject to poisoning and too alert and lively in movements to make spraying with contact insecticides practicable. The only thing to do is to protect every choice plant or blossom with close-mesh netting and to await the disappearance of the insect, which usually accompanies the cool September nights. The red spider and black and green aphids are sometimes troublesome, but can easily be controlled by spraying the former with cold water merely, the latter with a weak nicotine or strong soap solution.

Borers occasionally work in the stalks, but can usually be removed without harm to the plant if the injury is noticed in time by splitting the stalk with a sharp knife and killing the borer.

The black aster bug attacks the flowers, devouring them if allowed full sway. They attack the white and very light varieties first. We eliminate them very readily by using a bucket with a few inches of kerosene. Slip the bucket under the flower quickly and quietly and the beetles will drop right in. Care must be taken to walk quietly, as they drop to the ground if disturbed in any way. The striped and spotted cucumber beetles also attack the flowers, but not in such numbers as to do great damage. As they slip down in the tubular end of the petal to escape, just pull out petal and beetle together.

Cut worms are very annoying sometimes, especially in low ground, or during a cold, wet spring. Many remedies are suggested, but a careful daily watch will soon eliminate them. When the Dahlia is cut off, take a stick and work around the plant and you will find the worm; kill it and be happy in the knowledge that shoots will come up from the lower eyes. Even where plants are set the eyes at the bottom will come up after the plant has been cut off.

Failures are bound to occur to the beginner, and oftentimes to initiated. Therefore do not become discouraged if you do not at first grow flowers as large and fine as you see them exhibited; but keep plugging away, with the knowledge that eventually you will grow them as

large and fine as it is possible for them to grow. It is here that the Dahlia is the flower of the people. If you want giant flowers work six (6) inches of manure in the soil, thoroughly incorporating it into the soil to a depth of two (2) feet. Give thorough cultivation as described before and disbud as described in the following chapter.

I wish to particularly call attention to two comparative inconsistencies. Remember, everything depends on conditions of weather, soil, cultivation, etc. If you just want Dahlias, and propose just to take ordinary care of them, and do no disbudding, you do not want your soil too rich. Under these conditions fairly light soil is best. But if you will always keep the surface loose, water when needed, disbud faithfully, you cannot get your soil too rich, nor does it much matter how light or how heavy your soil may be.

Hardened wood is a great source of failure and discouragement. This is generally found on rich soil, where the plants have been allowed to grow rampantly, after having been planted early. I receive hundreds of letters each year on this subject. Do you advise pruning? is the question usually asked. Yes! As stated elsewhere, Dahlias bloom on the soft or new growth only, therefore to secure good and abundant bloom you must keep your plants growing. Cut the large plants back heavily—two-thirds at least—so as to force a strong, vigorous new growth, and then disbud. (See next chapter.)

The same remedy applies to dwarf, bushy growth equally; keep them growing.

Some complain that Dahlias will only bloom every other year. That is, plants that do exceptionally well this year will not bloom well next year.

We do not have this trouble, and if plants are grown and disbudded, given a top dressing when showing signs of exhaustion, the roots will not become exhausted and will give equally good results year after year.

Bottom leaves. I am often asked, shall I remove the bottom leaves? This depends on conditions. We prefer the lower or bottom leaves on, as they protect the roots from the hot sun. Keep your plants growing vigorously and the bottom leaves will remain green and luxuriant. If, however, owing to dry weather or some other mishap, the lower leaves become dry or damaged that they affect the appearance of the plant, remove them; but remember, if you can keep those bottom leaves green and healthy you are also assured of healthy roots.



PHOTOGRAPH OF PLANT OF DAHLIA
JOHN WANAMAKER SHOWING
NATURAL GROWTH

CHAPTER VI

DISBUDDING

THIS is the most important factor in raising Dahlias, and I have had photographs taken to illustrate the subject so as to make the subject as plain as possible. I have described the single stem branching system by the pinching out process; and have advised against having the soil too rich, and apply top dressings after the plants commence to bloom. The main object is to keep the plants from getting too large, calling attention to the fact that is more a case of moisture than fertility. I will now state by thorough disbudding you can hardly get the soil too rich. Dahlias bloom on the young shoots. When the plants get very large the moisture is evaporated through the leaves so rapidly on hot dry days that the wood hardens, the buds blast or open one sided or imperfect flowers.

On page 30 is a young plant showing natural growth of the Dahlia "John Wanamaker." The second photo on page 31 shows the same plant with the terminal bud, but the first two pairs of lateral shoots or branches removed. Just examine these two photos carefully and you will see what a simple operation. Simply take the main stalk at the base of the leaves with the thumb and first finger of one hand, the shoots in the thumb and finger of the other hand and snap or break them out one at a time. This is all that is necessary at that time. You can see the lower branches, but they are not ready yet. When these branches develop buds, repeat the operation, treating each branch as you did the main stem. By this time you will be more interested as the terminal bud of the main stem will by this time be developing into just the kind of flower you have always wished for.

The third cut on page 32 shows you the plant when four of the branches after having been disbudded in the same way have developed their terminal buds into superb exhibition quality blooms, and a careful inspection will show several other branches, several of which have also been disbudded in the same way. No. 4, page 33, shows you the flower—the ideal flower that can be grown by any one, by following these simple instructions, the entire season.



SAME PLANT OF JOHN WANAMAKER WITH TWO PAIRS OF SHOOTS REMOVED, WHICH IS THE PROPER WAY TO HANDLE DAHLIAS

Do not Pinch Out or Cut Back Plant until you can get a nice stemmed beauty for your trouble (Pleasure)



THIS IS THE JOHN WANAMAKER PLANT AFTER THE FIRST DISBUDED FLOWER HAD BEEN CUT AND THE NEXT TWO PAIRS OF SHOOTS OR BRANCHES HAD COME INTO FLOWER AND THE OTHER BRANCHES DISBUDED. THE PHOTOS SPEAK FOR THEMSELVES

This disbudding will be the more interesting, as it carries with it the knowledge that the finest flowers are assured. We know how many dislike to remove the buds and young shoots, but you must remember you cannot get those large flowers otherwise. Again this insures a continuous supply until frost. If you think this too much trouble, consider that all carnations, chrysanthemums, etc., are disbudded with greater attendance of time and labor,

Yes you can get fine, large flowers without disbudding under favorable circumstances and conditions, but they will grow smaller, as the quantity increases until they are very small, or under hot dry weather you will get finally a few one-sided flowers and immense bushes. This disbudding is so simple if started at the beginning and the results so greatly beyond the proportion of time involved that it will become universal.

How about a succession of flowers? is the question asked invariably by the novice. Look at the illustration of a blooming branch of Dorothy Peacock, on page 34. This shows the natural growth, and consider how many buds and blooms would soon be on a plant if allowed to grow and bloom naturally. If the first two pairs of shoots had been removed as instructed and shown in illustrations on pages 30 and 31, the third pair at the bottom

would have developed, instead of remaining practically dormant. You would have the large long stem bloom with two more coming on. This is no theory, but a thoroughly practical method carried out successfully for years in growing on a large scale the finest commercial flowers, not to speak of the hundreds of exhibition collections.

Of course with a shorter jointed grower, there are more eyes or young shoots to remove. You have no idea how disbudding will help you to success. Imagine growing chrysanthemums or carnations without disbudding!

Any one can grow Dahlias of exhibition quality if they will digest these remarks, study plant requirements and then act accordingly. Disbudding does away with those immense plants that evaporate the moisture from the soil so rapidly that during hot dry weather the buds blast in spite of all the water you give them.



PHOTOGRAPH OF A BLOOM OF JOHN WANAMAKER DAHLIA

This flower was $7\frac{1}{8}$ inches in diameter and was the original or first flower on the main shoot disbudded and grown as described in these chapters. *Note:* It was the flowers grown two months later on disbudded branches that were awarded First Prize as best pink dahlia, any class, by the American Dahlia Society, of the New York Exhibition

Plants should be encouraged to make short stocky growth until they come into bud. Then disbud leaving the terminal bud and eyes at the base of the shoot for a further supply of blooms.

There are many confictions in Dahlia growing and to the amateur or exhibitor, where disbudding is followed you can trench your soil to two or three feet in depth and you cannot get the soil too rich; yet, commercially, moderation is essential.

When the flowers commence to grow smaller is the logical and proper time to fertilize. Apply any good fertilizer broad-cast or any kind of manure available; but it is better to give two moderate applications than too much at one time. Many believe you cannot get soil too rich, but this is a fallacy in open air cultivation at least. If a long wet spell follows too much fertilizer, especially if rich in ammonia, the flowers will be large, but so soft as to be practically worthless for use. We have seen immense flowers that were so soft they wilted and never looked right after being cut.

These flowers were worthless commercially but would have been the acme of perfection to the amateur.

Under this heading I will call attention to plants which have become hard and woody, as frequently happens when planted early, especially if the plants are large.

Do not hesitate to cut them back to encourage new growth, because, as stated previously, the Dahlia blooms on the soft growth only, and if for any reason the growth has been checked or the buds blasted, cut them back. As late as August 1st you can cut your plants down to the ground if they are not growing and blooming and you will by the latter part of September get the finest results.

Plants affected with thrips or red spider should be cut down to the ground, handling them carefully so as to destroy all the insects with the tops if possible, and give the plants a chance to send up new shoots from the roots. These plants should have good culture and fertilizer if the soil is not rich.

Care must always be taken in disbudding that the terminal bud has not been injured. Insects, dry or hot weather are the principal causes. If the terminal bud is not perfect and healthy leave one of the other buds. Where there is doubt it is well to leave the first pair as well as the terminal, to insure a flower, and leaving the best after they have developed sufficiently to be sure of them.

Different varieties having different habits of growth, I have tried to make disbudding plain by using a specified variety with illustrations. I used John Wanamaker because it responds most marvelously, and does not show its real size and beauty unless disbudded, as it is such an early and profuse bloomer. Other varieties can be handled according to their habit of growth, using the same principle.

Do not forget that no matter how far down you disbud the eyes will break out and give shoots that in turn can be disbudded, the process continuing until frost, and the roots will then be excellent for the following year.

Pompons and Singles. Yes, even pompons and singles should be disbudded, no matter for what purpose. Even a bed of pompons will show up much better, the flowers will be brighter and will last much longer when disbudded. This is because the young growth does not hide the flowers and use the strength from them. Also the shoots breaking lower will come on and replace them as they fade.



DOROTHY PEACOCK
Showing natural habit of growth



JOHN WANAMAKER PLANT AND ROOTS

Just as dug from field after frost, showing its wonderful branching habit of growth; note carefully the plant was not pinched out and yet it branched out right from the ground



NEW PÆONY DAHLIA, F. R. AUSTIN

CHAPTER VII

NEW VARIETIES.

THE popularity of a plant is always increased by the production of new varieties. Whether this is, altogether, because we tire of existing kinds, or because the production of distinct forms and types disproves the old adage of there being "nothing new under the sun," our readers must decide for themselves. The scientist would demonstrate that nothing new had been created—that it was only new combinations of what existed before; but in this very demonstration, however, he would admit that which he was trying to disprove; it is these new and marvelously beautiful combinations that excite the admiration of the flower-loving world. No other flower has been so improved by the production of new varieties as the Dahlia, and, strange to say, without impairing its vigor or growth.

Although many new varieties are produced by sports from existing kinds, the most important method, and only one by which real progress is made, is by planting selected seeds. To secure the best results, seed should be saved from dwarf, very double varieties only, as they not only bloom earlier but give a greater percentage of good flowers. Crossing varieties also offers great possibilities in the production of superior sorts, and many specialists secure the exact kinds they wish by the judicious selection of parent plants.

Artificial crossing of varieties is very easily accomplished if the proper care is taken, although growers have, in the past, been content to depend chiefly on bees and other insects for all crossing, and simply gathered seed from the finest flowers. All that is necessary is to select the varieties it is desired to cross, and apply the pollen of one to the pistil of the other with a fine camel's-hair brush. It will take several operations on each flower-head, as each head is composed of numerous individual flowers which open slowly, commencing at the base of the rays or petals. Care must be taken to remove the pollen from each flower of the head, before it can impregnate the pistil with its own pollen, also to cover the flowers operated on with wire screens, to keep off bees and other insects.

The seed can be sown thinly in the greenhouse, in a box in the house, or in a mild hot-bed early in April, and transplanted into the open ground as soon as danger of frost is over. They require the same treatment as other Dahlias, except that they must be watered until thoroughly established, and will bloom freely the first season.

Of course where only a few seedlings are grown they can be potted as we do our rare seedlings; but, in a case of two hundred and fifty thousand, the expense would be prohibitive and we transplant direct from seed row.

Growing new varieties from seed is most fascinating to amateurs, owing to the uncertainty and expectancy; for besides the possibility of raising a finer variety than was ever before produced, they have the pleasure of watching each plant as it first unfolds its hidden secret.

Sports have the same form and other characteristics of the variety from which they spring, and are simply a reproduction of the old variety in a different color or colors. In some instances they have simply a change in the ground color, as it seen in the "Fawcett" sports, while in others there is a complete change of colors. They are seldom an improvement on the old variety, and are most frequent among the Fancy sections. Some varieties sport permanently, while others sport back and forth and cannot be depended on unless selected very carefully. An example of the latter class can be found in the Fancy Dahlia "Dandy," which is a red pink, striped and heavily penciled, black, and is so apt to sport that, unless care is exercised, nine-tenths of the flowers will be solid black. There is also a pink sport of this variety, but



NEW DECORATIVE DAHLIA, DR. TYRRELL

if care is taken to throw out all but the striped type for a few years, but little trouble will be experienced in keeping it true.

This pink sported pure white and while it was hard to keep the penciled form the Pink Dandy and White Dandy have never reverted.

Some of the new varieties recently introduced are marvels of entrancing loveliness, being of largest size, most beautiful form, and of exquisite finish. While there has not been a blue variety produced as yet, many believe it is only a question of a little time, for we already have several purples containing blue shades; all that is needed is to develop those shades, and we have the greatest floral novelty of the century.

A great deal has been said regarding the value of new varieties of flowers, both pro and con; but it is now generally conceded that new varieties of merit are not only beneficial to floriculture, but are absolutely necessary to keep up a popular interest, in any class of plants. The past history of the Dahlia is sufficient proof of this; but, while new varieties are essential, improvement is of still greater importance, and no variety should be introduced unless it has more good points than any other variety of a similar color and type.

With the introduction of the Newer Cactus, Decorative, Pæony, Collarette, Anemone, Century, etc., we have now reached the stage when the Dahlia is the most popular of all garden flowers. While a few years ago we would not have dreamed of to-day's masterpieces, we now know that the end is not yet. We will continue to develop and improve existing types and perfect and develop each new break as it appears.



JACK ROSE



GIANT CENTURY DAHLIA, MRS. WENDEL REBER



DAHLIA WAREHOUSE
With packing and store rooms and lofts, with staff of employees

CHAPTER VIII

COMMERCIAL DAHLIA GROWING.

FEW people realize the magnitude of commercial Dahlia growing to-day. The illustrations will give a good idea of the extent of growing Dahlias for commercial cut flowers, and these were all taken on only one of the many Dahlia "Farms and Gardens," while the following was written by the editor of the Florists' Exchange October 24, 1914:

"The plants or roots are set out at various periods from April until August, partly owing to the exigencies of the business and partly in order to secure a succession of bloom. The rows are set at $4\frac{1}{2}$ feet apart, and the furrow for the planting is made with a Darnell marker, 6 inches deep, and the plants are set at $2\frac{1}{2}$ feet to 3 feet apart in the row, according to the variety. The roots are covered in, and a roller passed over them, after which a light scratch harrow follows so as to leave a broken surface soil. During the growing season the weeding machine is kept constantly at work; even after rainy weather the hoe is kept active, not only to suppress weeds but to scarify the surface, and conserve the moisture; moreover scarifying cuts the upper roots of the Dahlia plants, causing them to throw their roots down, and while it retards growth, it tends toward a firmer type of stem, which is what is wanted. It is an axiom here never to produce sappy growth. The weeder is shaped like a snow plow, with two rows of curved prongs, and hoes about 7 feet width of ground, and goes over the Dahlia plants with impunity, as it is found that the slight bruising or knocking does them no harm in their earlier stages of growth. Of course, it requires a careful man to handle such a weeder.

"So soon as the plants begin to throw out stem growths, these are pulled away, leaving but two main ones; in Midsummer these are topped to about one foot, and the resulting branches from these are limited to ten, more or less, according to the variety, and if large blooms are wanted, each shoot is disbudded to one flower; if not, of course this work is not undertaken. The pinching is done by girls.

"About the month of August, when it is desired to encourage the growth for flowering a few weeks later, a dusting along the rows is given of steamed bonemeal, and also, we believe, of sulphate of potash, and where necessary, some nitrate of soda. This, of course, also depends on the season and the condition of the plants; it may not be necessary in all cases. A good deal of horse manure is also plowed into the soil in the Winter. No irrigation is practised.

THE DAHLIA.



FIELD OF DAHLIAS

"The blooms are shipped to Philadelphia, New York and Buffalo, mostly at the rate of 50,000 a day in the height of the season, which is around October 1, and 43 people are then employed; at the present time as many as 34 find regular work.

"The store rooms, shipping room, and loft are comprised in a large, well built concrete



FIELD OF DAHLIAS



CORNER OF CUT FLOWER ROOM

building, a view of which is shown. An annex for cut flowers has been added on the north side, built of concrete blocks, and has a double ceiling, tiled, and an earthen floor, also plenty of bench room; as many as 100,000 blooms can be housed ready for sale or shipment. The flowers are brought in from the fields in a frame attached to the back of an auto, this containing 20 buckets of 100 blooms each.

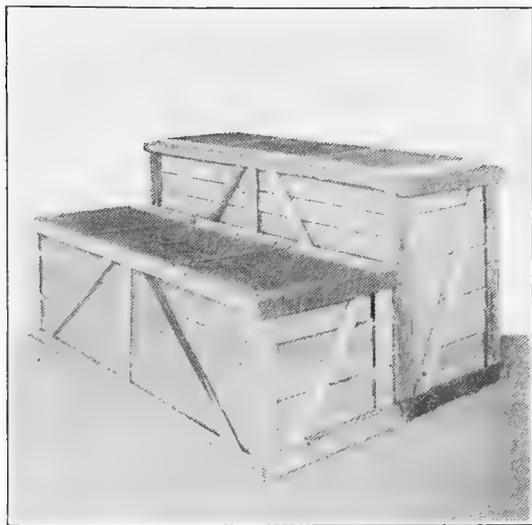
"During the whole of the flowering season large numbers of visitors in automobiles are constantly coming and going, and many purchases are made by them. When shipping is at its busiest, the staff works in two shifts, so that a part is always engaged cutting and sending off or preparing to, even during the night.

"The stout cardboard boxes contain from 50 to 150 blooms each, according to the variety, and from three to five of these boxes are fitted into a crate or frame, and so packed, they travel with the utmost security.

"In regard to varieties it would require much more space than can be afforded now, to name the many good kinds that were seen. John Wanamaker stands out as an ideal bright pink Pæony Dahlia; this is its proper class, although many have contended that it is a double decorative form, which it really is early in the season, but assumes its true character in Octo-



A BOX OF SHOW DAHLIAS PACKED FOR SHIPMENT TO MARKET



AFTER THE BOXES HAVE BEEN PACKED,
THEY ARE CRATED, AS SHOWN HERE-
WITH, AND ARE NOW READY
FOR THE EXPRESS COMPANY

ber. Jack Rose, rich crimson-purple, a small decorative, is one of the freest bloomers; in all respects an ideal Dahlia for the wholesale trade. Some roots of this were planted in April, others in Midsummer, and as many as 25 good blooms have been cut from a single plant. The popular sorts are grown in big batches, five that we counted covering an area of $7\frac{1}{2}$ acres. These were Jack Rose, Lyndhurst, Yellow Duke Arabel'a and Red Hussar; a bronze sport from the latter is also a great favorite, while others are Marjorie Castleton, which has been in bloom since July, and is still very pretty; Delice, one of the best bright pink decoratives; Pilot, a good amber flower; J. B. Riding, fine golden-russet cactus; Sunshine, an excellent pompon; Effective, a lovely creamy-rose cactus; Bridal Robe, a white cactus; Isabelle, a blush and cream colored show; Success, clear bright yellow cactus; Mrs. Douglas Fleming, white cactus, very free bloomer; Nerissa, a rosy-mauve pompon. These

represent some of the more prominent varieties, but indeed all kinds are here included from the monster scarlet Souv. de Gustav Douzon to the gorgeous yellow and scarlet Pæony-flowered Geisha. The Twentieth Century singles, and the newer collarettes are all found in abundance, but we must leave the discussion of varieties according to groups for another occasion. These notes merely outline the extent and character of the business here conducted."

Mr. Dick, in his description of a commercial Dahlia farm, naturally stopped with the flowers packed and crated for shipment. It is here, however, that the Dahlia men have shown their progressiveness, for, instead of cutting and shipping indiscriminately on consignment to the wholesale florists, as is done with other flowers, the finer varieties are cut and shipped on orders only.

This is absolutely necessary for several reasons and explains the wonderful growth in the Dahlia cut flower industry. The Dahlia is as exquisitely formed and colored as orchids, bruise as easily and must be handled as carefully. Therefore we say, Mr. Florist, give us your order and we will pack it specially and as carefully as you would pack orchids; it will reach your city and our representative will deliver it to you at once. No one will even see what you are getting, much less handle or pick over them. We guarantee they will reach you in perfect condition.

But commercial Dahlia cut flower growing is not all sunshine. The season generally commences in September and lasts until frost, about six weeks, but we are liable to have two or three weeks of extremely hot weather in September, with an abundance of flowers and little demand.

Then we have the other extreme—a failure of the Aster crop and a dry, cool August, with a brisk demand for Dahlias two to three weeks ahead of time. Even irrigation won't help, for it is so cool the flowers open most tantalizingly slow, and, worse, one or two light frosts a week.

But it is the intermediate, when conditions run more normal, that evens up. Then we don't envy the amateurs, who can grow and enjoy their Dahlias any time and all the time and do not have to have their flowers just at the right time in proper quantities, regardless of conditions of temperature, moisture and supply of other flowers.

CHAPTER IX

DAHLIAS FOR SPECIAL PURPOSES.

THESE are now varieties of almost every conceivable color, form and habit; and, where the finer varieties are known, they are largely used and highly prized, for all floral purposes. There are many varieties that are similar in color, and from a general description would be called identical; yet, owing to form and habit, they are entirely distinct, and each is pre-eminently adapted to some special purpose. It is, therefore, of the greatest importance that the various characteristics of each variety should be given in the descriptions, that the monotony and general similarity of the descriptive list can be avoided, and thus assist the buyer in selecting varieties for any special purpose. In the past, Dahlias were grown chiefly as garden plants, where color was of importance, and little attention was given to any particular shade or tint of that color; but with the knowledge of the adaptability of the plant to conditions, and its value for so many special purposes, varieties to supply these needs were produced. Therefore, the time for buying and growing Dahlias under color is past, and both the amateur and the grower will select certain named varieties for a certain purpose.

There was a time when Dahlias for commercial cut flower purposes must have stiff stems, but now with the best florists this makes no difference, in fact, several have told me they prefer a pliable neck, as they wire every flower they use, and for decorations they sometimes cannot get the effect they want from the rigid stem varieties. Now, then, we all prefer a Dahlia with a long stiff stem—many won't grow any other kind; but think of the relief, not to speak of the increased variety and artistic and decorative effects.

Dahlias are now used for every purpose in their season, as a cut flower for every conceivable purpose they are used with most effective results. In fact, there is no use a flower can be put to—bold, subdued, chaste, artistic or striking—that the proper Dahlias cannot be selected and used more effectively than any other flower available.

The wonderful variation in form alone from the various singles, duplex, pæony, collarette, anemone, decorative, cactus and ball, with their distinctive types. Then their variations in foliage, habits, colors and blendings of colors in each of these classes and types of classes.

A bed of *Minnie Burgle* will surpass any bed of cannas in general satisfaction, as it will give the rich glowing red effect and a daily decoration for the house will not be missed.

It may not be amiss to state that this grandest of all red Dahlias is a product of the Mare Island Navy Yard, San Francisco, and a credit to Uncle Sam and his gardener who produced it. It is not alone the large size and rich vermilion cardinal red of the flower, but the strong, vigorous plant, that just blooms and blooms and then blooms some more, until killed by frost.

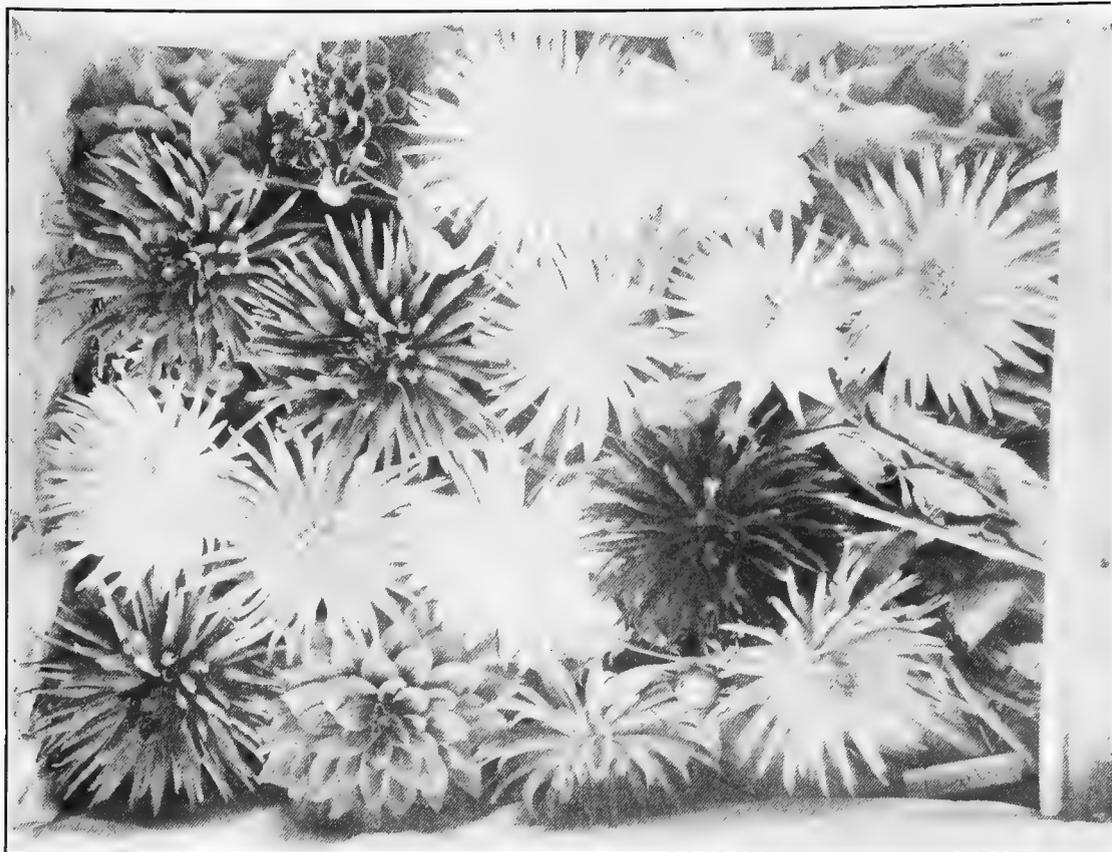
What variegated, yellow and red canna can compare with a bed of famous *Geisha*? These beds not only are grand from a distance, but exquisite from a close inspection and are nice to carry into the house or give to friends.

You can have a bed of pompons in one or more colors. Snowclad is well named white; Klein Domitea would give you a bed of copper, with a corresponding wealth of pleasure and satisfaction.

For general garden culture I will name a few of the best in the two types that appeal most as to size and general loveliness:

Cactus—Bridal Robe, Crystal, Electric, H. H. Thomas, Conquest, Fulgent, Marathon, Mauve, Queen, Kalif, Marjorie Castleton, Monarch, Nellie Riding, Regularity, Rev. T. W. Jamison, Richard Box, Success, Stability, Wodan.

Decorative—Ayeshia, Beloit, Bertha von Suttner, Bloemhove, Dr. Tynell, Flamingo, Grand



ONE-HALF BOX EXHIBITION DAHLIAS PHOTOGRAPHED ON ARRIVAL AT EXHIBITION

Duke Alexis, Goldmine, Hortulanus Fiet, Kathryn De La Mare, John Wanamaker, Le Grand Manitou, Mme. Aymond, L. Kramer Peacock, Minnie Burgle, Papa Charmet, Perle de Lyon, Queen Mary.

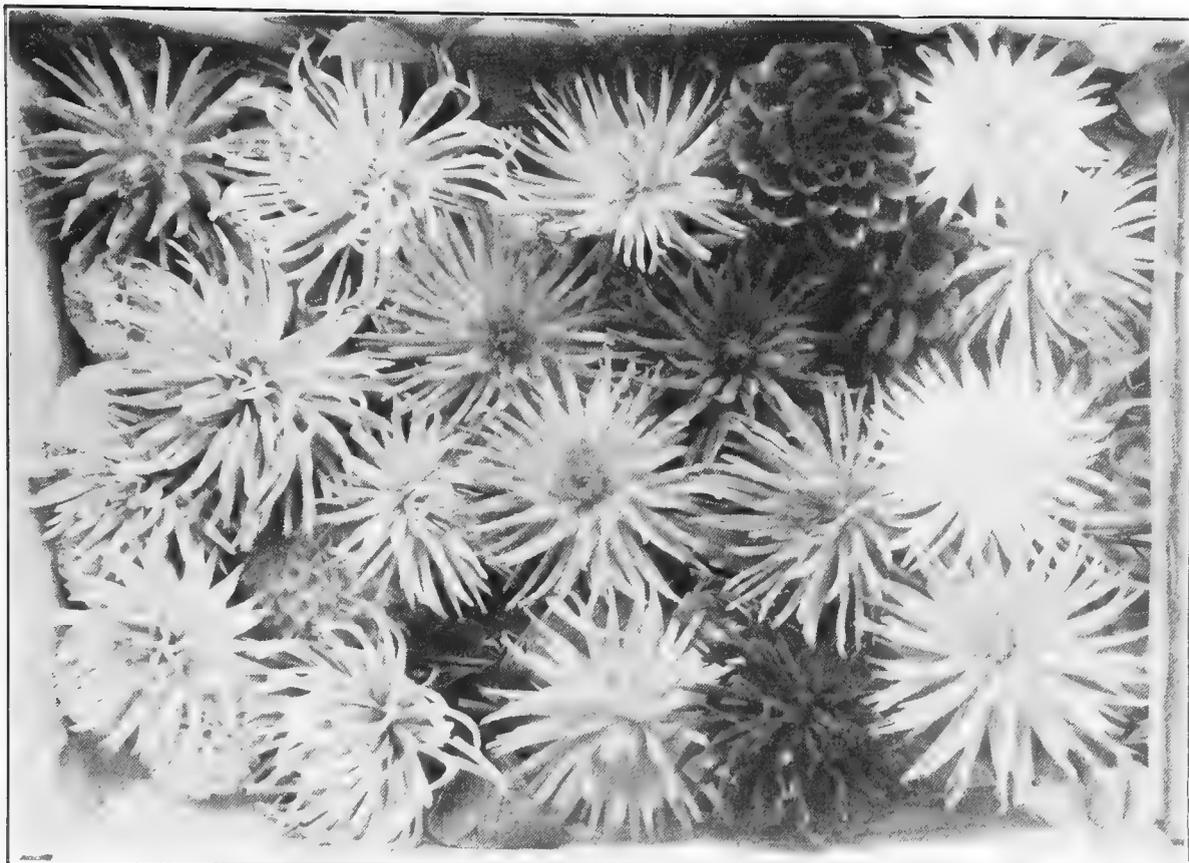
Pæony—America, Andrew Carnegie, Dr. A. Kuyper, F. R. Austin, Geisha, H. J. Lovink, Louise Hogg, Leo XIII, Lilac, Lullingstone, Mme. Van Loon, Monarch, Mrs. G. W. Kerr, Mrs. Wm. Kerr, Mrs. G. Gordon, Peace, Peacock's Yellow.

The other lists of varieties are not so long, therefore not so confusing to the beginner. Again these varieties are as for 1917 season. The catalogues will give other new varieties from year to year. I have not gone into long descriptions for I have not forgotten the many times it has been necessary to go through a page of fine print description to get the color of a variety.

Dahlias are often used as a cover for a barren place, where only color was wanted. In one case two thousand Wildfire Century was used on a small hillside that persistently refused to grass. In another instance six thousand single mixed was planted four feet apart each way to cover a hillside. The natural effect was most pleasing, although not so striking as if planted in blocks of colors.

The possibilities of mass planting are not realized generally, and when it is considered that 4 x 4 feet or sixteen square feet are covered by one plant (and they do better at this distance than closer) it is a very economical way of covering hog-backs, hillsides or any vacant piece of land.

One of the most satisfactory locations is in the garden, directly between the lawn and vegetables. Flowers are now a necessity in every home and every one can have an abundance



THE BALL AND DECORATIVE WERE PACKED IN BOTTOM AND CACTUS ON TOP
NOTE PERFECT CONDITION

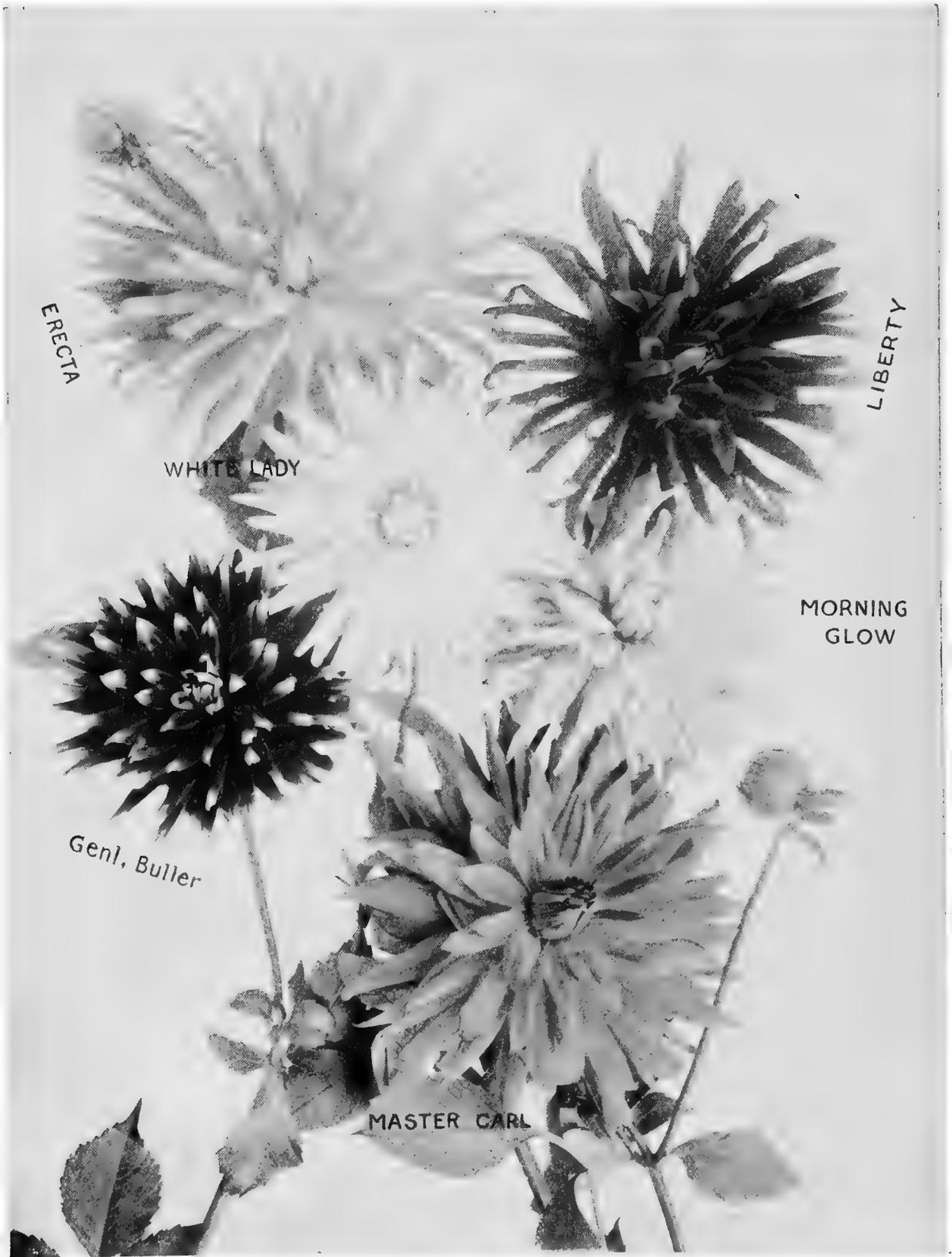
of flowers in any particular color or shade, and form by planting a few Dahlias on the house side of the garden.

You have too many trees and shrubs for Dahlias to do well. Use pots. If you have never used Dahlias in pots you cannot imagine what beautiful plants and blooms you can grow in this way.

Or you can make a concrete box or bed, either sunken or on the surface of the ground, being careful to have plenty of holes for drainage; fill up with good soil and plant your Dahlias. You will be surprised at the results, right under the trees. Of course, you want suitable varieties that are stronger for blooms than foliage. In fact, some varieties, like Electric, do much better in partial shade, as the sun, in very hot, dry weather, is inclined to scorch the outer petals of the delicately tinted varieties before they fully expand.

Nothing is handsomer than some of those immense, beautifully formed and richly shaded or delicately tinted Dahlias on long, slender, gracefully drooping stems. They make a fine contrast to the bold upright growing varieties, and are really more valuable as they can be wired up, so they can be used in any position.

It is surprising how much longer a flower will last if it is wired. The wires are very cheap and the operation is very simple. Simply insert one end directly in the back of the flower parallel to and alongside of the stem for a few inches, then wind it around the stem. You will soon become expert. In making a decoration you can place each flower in just that particular position you want it by simply bending the wire.



ERECTA

WHITE LADY

LIBERTY

MORNING
GLOW

Genl. Buller

MASTER CARL

CHAPTER X

DAHLIA EXHIBITIONS.

NO FLOWER is better adapted for exhibition purposes than the Dahlia, which fact is fully appreciated in England where Dahlia shows not only exceed the chrysanthemum shows in number, but in surpassing beauty and popularity. In England, France; and Germany, but especially in England, Dahlias are universally grown by all classes, and almost every town and hamlet as well as the large cities, have a Dahlia show of their own. There, in almost every garden, can be found the most beautiful varieties, grown especially for the local Dahlia exhibition, where the titled gentleman and his humblest laborer compete on equal terms for the same prizes. Nor does the humbler man compete in vain, for, in many cases, he wins the prize for which he has striven so hard. As the Dahlia requires no special conditions or greenhouses, it is entirely a matter of science and skill, and there is everywhere such a strong, yet friendly, competition, as to arouse the greatest popular interest and enthusiasm.

How different in America. Here we have few shows during the summer and early autumn months; but, early in November, there comes such a deluge of Chrysanthemum shows as to almost bewilder us. Our florists and horticulturists seem to think the Chrysanthemum the only flower worthy of an exhibition; and, then complain because the masses do not agree with them. The November Chrysanthemum shows are losing in popularity, simply because the masses are not interested in a flower they cannot grow; they admire them, but, lacking interest, do not care to see about the same thing from year to year.

Somehow our leading horticulturists do not realize this, for they are now discussing this monotony of, and lack of interest in, the flower shows. They attribute it to the system as may be seen from the following quotation: "The next question is, how to get the masses to lend us their eyes and ears. The present system seems to fall short somewhere, and is pretty near a failure."

The first thing is to have every local horticultural society become affiliated with the American Dahlia Society and give early Autumn shows. Not for Dahlias alone but include all flowers and decorative plants; which, with the "Autumn foliage" give the greatest range and possibilities. This is particularly advisable as in case of local climatic or other unfavorable conditions, an appeal to the American Dahlia Society would result in aid from growers in more favorable districts.

For Summer and early Autumn shows, especially in small cities, towns, and even country villages, the Dahlia offers great possibilities, as it requires no special condition and can be grown to perfection in every garden, with but little trouble and expense. In this respect, it has no equal, and can truly be called the flower for the masses, as its superb beauty can be as fully developed in the workingman's garden as on the more pretentious grounds of his more fortunate neighbors.

Not only in halls are exhibitions to be made, but nearly all the large growers have trial or show beds. Many think a Dahlia exhibition should be given inside with cut flowers, but the grandest exhibition I ever saw was two years ago, when we had a half-million disbudded flowers open, to say nothing of the millions that were not disbudded over an area of one hundred and twenty acres. We had anticipated a great season, but under the current conditions caused by the outbreak of the great war, there was not sufficient demand and I only wish every reader could have seen that magnificent exhibition, which I hope we may never see again as it meant the loss of thousands of dollars. However it was appreciated by many thousands of visitors.

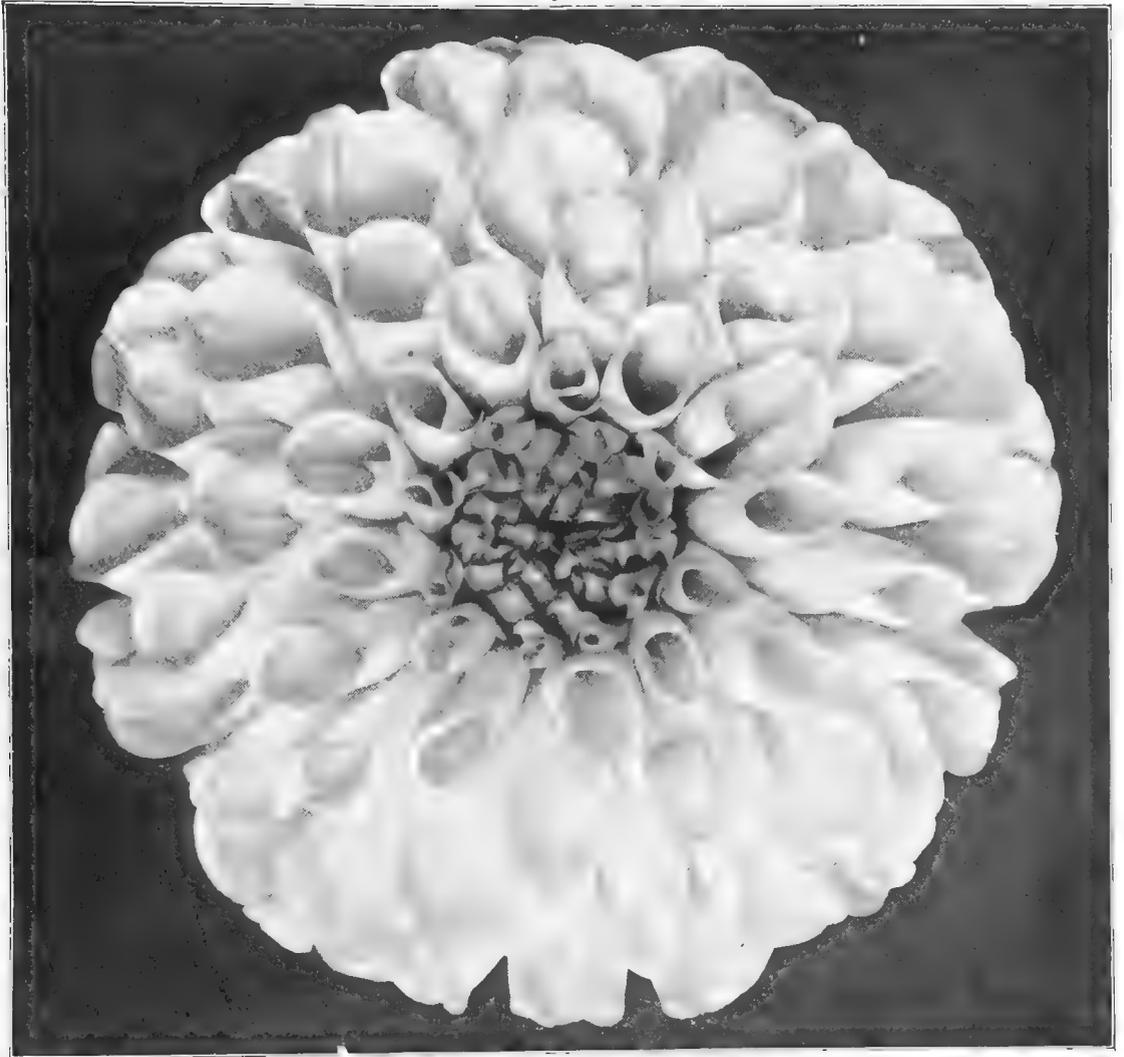


NEW FANCY CACTUS DAHLIA, JUPITER

Let every Dahlia lover aid the local shows, but above all make a continuous exhibition on their grounds and in their homes.

I am often told that the Dahlia can never supplant the Chrysanthemum, and that the Dahlia shows would never reach the popularity of the Chrysanthemum shows. As to the first no one would wish it, nor could it be, as they occupy two distinct seasons, and one follows the other in perfect succession. The Dahlia is in bloom from June until October, while the finer Chrysanthemums do not commence to bloom until the last of October and November; as they thus occupy two distinct seasons, it is useless to compare their relative qualities. One is a popular garden plant, the other, to be fully developed, belongs to the greenhouse; both have their missions—neither can be spared.

But in popularity, the Dahlia shows are destined to surpass every other floral exhibition in the near future, as they require no special conditions; no greenhouses, and can be grown in every garden, thus insuring spirited competition, without which the popularity of a show is sure to wane as the novelty wears off. Nor is this popularity undeserved; there is no other



GREAT DECORATIVE DAHLIA, MRS. ROOSEVELT

flower can compare with them in range of colors or variegations, while the beautiful lustre of the colors is unsurpassed in nature.

It is only at a comprehensive Dahlia exhibition, that its many wonderful characteristics can be seen. Flowers of almost every conceivable form and color, all of superb beauty, are tastefully arranged so as to give the most pleasing effects. Some plants only ten inches high are exhibited in full bloom, while near by is a giant of ten, perhaps fifteen feet high. There are so many classes and types of Dahlias, that a person seeing a complete exhibit for the first time would be very apt to ask:—"But which are the Dahlias?"

Among the new introductions are varieties that resemble the Chrysanthemum, the Water Lily, the Cactus, and the Rose, besides improved forms of all the older types; and it is not unusual to see specimen blooms six to eight inches in diameter, on stems two to three feet long. This diversity of types and forms, precludes the possibility of that monotony so common at flower shows. The rapidly increasing popularity of the Dahlia will do much towards developing floriculture especially in the rural districts, and will undoubtedly encourage the formation of local societies, for the purpose of holding Summer and early Autumn flower shows, throughout the country.

The first annual exhibition of the reorganized American Dahlia Society, held in September, 1915, in New York City, was a revelation, not only to the immense crowds of visitors but to the old guard florists. The American Dahlia Society is affiliated with the Society of American Florists and Ornamental Horticulturists, and both Societies did their utmost to make the first national exhibition of the newly reorganized Society the success it deserved.

To give an idea of this great Dahlia show I give below a reproduction of a section of the display that was awarded the Gold Medal.



DAHLIA EXHIBIT

The competition was keen, not only for the best general displays but for vases of the various colors on long stems, collections of each of the different classes and types and for individual blooms, designs and various decorations.

Taken all in all it was a wonderful exhibition and set a high standard for all future national Dahlia shows.

Every local community should have its Dahlia show, where the friendly competition excites each grower to do his or her very best to surpass.

It is very easy to organize a local club or society, become affiliated with the American Dahlia Society and help along the good cause, as well as community interest and personal satisfaction. See chapter "American Dahlia Society," page 55.

CHAPTER XI

CONCLUDING REMARKS.

WHILE a thorough stirring of the soil will generally give better results than watering, in garden cultivation, yet, when Dahlias are planted near trees, hedges, or large shrubs, they will require liberal watering, especially in dry weather, as the roots of the trees and shrubs will rob them of nature's supply of moisture. Specimen plants on the lawn will also need watering during dry weather, and will well repay this extra attention with their wealth of bloom. A very common, yet fatal, error, is to start the roots in a hot-bed and allow the shoots to become a foot or more in height before planting on the lawn, as a plant started this way will need staking, and will always have a top-heavy appearance. A perfectly symmetrical Dahlia bush is one of the loveliest plants for any open position on the grounds, and can be grown with half the attention required by almost any other flower.

It is best to prepare a circular bed, at least two feet in diameter, and thoroughly stir the soil to the depth of eighteen inches to two feet. Plant large roots six to eight inches deep, and, under the single stem branching system (see figure 4, page 23), the plant can be grown in any desired form, by securing the branches to small supports.

It is not generally known that Dahlias make beautiful pot plants, and that, by feeding them properly with manure water they fully equal the Chrysanthemum as an exhibition plant. In growing plants in pots for exhibition, give them plenty of air and sunshine, though as cool a position as possible, and never allow them to suffer from lack of moisture; but, during very hot weather, partially protect them from the intense mid-day sun, which would injure the delicate petals, and in some cases cause the flowers to fade.

As the Dahlia is so free from insects and disease, it was thought unnecessary to give the subject a separate chapter. Mildew is the only disease worth mentioning, and is caused by climatic conditions and unfavorable positions. Give your plants an open situation, and keep them in a growing condition during dry weather by frequent stirring of the surface soil, or by a thorough watering once each week during the drouth, and mildew will be unknown. If your plants are badly affected they will never bloom, so cut them down to the ground, when they will send up healthy shoots, and with proper attention, bloom until frost.

There are but few insects affecting Dahlias in America, and these are easily disposed of by hand picking. The brown cut worm will sometimes cut off small shoots; as they will shoot up again, destroy the worm, and but little damage is done. The black aster bug sometimes attack the flowers but are easily picked off, as are also the spotted cucumber beetle—a small yellowish green, black spotted beetle about one-fourth to three-eighths of an inch long, that feeds on the shoots and flowers. As these insects are but few and scattering, and as mildew is seldom seen, the Dahlia can, practically, be called free from insects and diseases.

In reference to the amateur planting the same roots from year to year, it is well to sound a note of warning. Where Dahlias are planted early in rich soil and fed from time to time, and the plants kept blooming the entire season, in other words, forced, the roots are thoroughly exhausted and will not give the best results the following year. This applies to Dahlias as well as to Dutch bulbs or anything else, especially because the plants are kept blooming under stimulants, which prevents them from properly ripening and depositing plant food in the tubers, as would be the case under ordinary culture. This will account for the fact that Dahlias do not do so well in many cases the second year as the first.

CHAPTER XII

THE AMERICAN DAHLIA SOCIETY.

THIS Society, which already has members in several States, even as far west as Colorado, was organized at Hotel Hanover, Philadelphia, on March 20, 1895. Unlike most societies, it was organized at the earnest solicitation of several amateur admirers of the "grand old flower," who saw the need of such an organization to thoroughly introduce the new types and forms.

The Dahlia had undergone a complete transformation, and these admirers saw that it was necessary to show the marvelous results of more than a century's constant improvement. But there were other reasons for forming the society. The flower has always been popular with amateurs and gardeners, even if neglected by professional horticulturists, and has been largely grown, especially in the rural districts; but, owing to multiplicity of names and inferiority of varieties, the demand was becoming less each year, and the admirers of the flower, having been deceived so many times by beautiful pictures and glowing descriptions, were willing to buy only where they could see the varieties in bloom. As soon as the specialists realized this fact, they at once joined hands with the amateurs, and the formation of the American Dahlia Society was the gratifying result.

It is the intention of the society to carefully classify all the existing varieties, and make a meritorious list of all scoring a given number of points. This will greatly increase the popularity of the plant, by restoring perfect confidence in the varieties offered for sale.

The society was organized solely in the interest of floriculture in general, and not to make money, as may be seen from the fact that the yearly dues are but one dollar. This subject was carefully considered, and it was decided to make the society a popular one.

It is also the desire of the National Society, to assist the formation of Local Societies in every floral community, for the purpose of holding local exhibitions during the Summer and Autumn months. True, there are exhibitions in all the large cities during November, but the majority of gardeners and amateurs are unable to compete, as they have no greenhouses or other facilities for growing Roses, Chrysanthemums, Carnations, and other flowers during that season of the year. November is therefore too late for popular shows, and it is only in large towns and cities that they can be held with even partial success.

In speaking of this subject an amateur said: "Of course early shows would not be popular with the florists; but as the florists have exhibitions in November, why should not the people have exhibitions during the Summer and early Autumn, when the garden can compare favorably with the best of greenhouse establishments?" This is all true, except their not being popular with florists. Whatever would increase popular interest in floriculture would always be the most pleasing to florists, and they would be only too willing to exhibit and render every assistance possible to the holding of early shows; this is most evident from the fact that they could exhibit their finest plants without danger of chilling, injury from gas, or other dangers, and at a time when popular interest and demand would be greatest. If these early shows were held throughout the country they would increase the interest in floriculture and, perhaps, the Chrysanthemum exhibitions would be more liberally patronized than during the past few years.

The organizers of the "American Dahlia Society" were aware of the lack of popular interest in the late shows, and believed it was, partly, because the amateur could not grow and exhibit flowers at that season, and partly because the exhibits were so stiff, formal and monotonous. Therefore they do not advocate an exhibition of Dahlias only; but, as the family is

so large and the range of colors, forms and habits so extensive, Dahlias are urged as a nucleus around which can be gathered all the other gems of the garden, conservatory and greenhouse. In exhibitions of this kind there is always something new at every step, and no two shows are alike; this with the interest displayed by the amateur and gardener, who can compete for every prize on equal terms with the large grower, imparts the greatest popular interest, appreciation and enthusiasm.

One of the chief attractions at these early shows, is the lack of that monotony so common at floral exhibitions held at a later date; vases, hanging baskets, festoons of wild flowers and vines, intermingle with the various exhibits in an ever-changing, yet pleasing, manner; while, here and there, groups of large decorative plants break the outline, and the visitors behold a charmingly distinct view at every turn.

The new society realized the necessity of holding these early and popular shows, and next September (1896) propose to give such a comprehensive show as was never seen before. Skilled decorators will have charge of the exhibition hall, and everything will be gracefully and artistically arranged to give the most pleasing effect. Many new departures will be made in the manner of exhibiting, while the prize list will be so arranged as to give amateurs an equal chance with florists and growers, also with the view of giving a beautiful, novel, and entirely distinct exhibition.

The society is national in its scope, and is receiving the earnest support of both amateurs and professionals. The executive committee represents three States—Pennsylvania, New York and New Jersey—while the membership extends as far east as Massachusetts, as far west as Colorado, and south as far as Texas. The society is also a popular one, and not devoted to any one class, but to the interest of every class; and the only qualification needed is an interest in floriculture; every amateur, gardener, seedsman, nurseryman and florist are cordially invited to membership.

Every floral community should be represented in the society, as one of its chief objects is to assist and further, in every way possible, the holding of floral exhibitions throughout the country. That every one interested in flowers might become members, the annual membership fee was placed at one dollar, which can be sent to the secretary, who will, also, cheerfully give any further information relating to the society or its exhibitions.

A society organized on such broad principles as the American Dahlia Society is worthy of the liberal support of every admirer of beautiful flowers. It has risen above any one flower by advocating an exhibition of all, and only adopted its name because the Dahlia, being the only flower qualified in every way to fill the space between Roses and Chrysanthemums, is the best as a nucleus for popular Summer and Autumn shows, where millionaire, workingman and florist can compete for the same prizes, with equal chances of success; where greenhouses are unnecessary, and victory follows in the footsteps of the skillful.

The writer regrets that since writing the first edition of this treatise The American Dahlia Society has undergone many vicissitudes. The first few years, under its able management, it was very successful and several exhibitions were held and the cause of the Dahlia greatly benefited, but owing to a lack of unity of purpose and a failure to get the various growers and dealers to work in harmony with the original ideas of making the society strictly a Dahlia Society in the interests of the Dahlia, and especially the amateur growers, it has been allowed to sleep peacefully and nothing has been done the past few years. The work done by the society is already bearing good fruit in the smaller towns as well as in the large cities. It is certainly to be hoped that as the general interest in Dahlias increases that this society may be reorganized on its original lines and the introduction of the many marvelous new varieties and new types of Dahlias may make Dahlia exhibitions even more interesting and instructive than ever. The Dahlia is now becoming a factor in the cut-flower market and thousands are sold daily in each of the large cities, in many cases for prices higher than Roses. Each year the exhibitions are improving and the demand is becoming so persistent for Dahlia shows that even Horticultural Societies and Florists' Clubs are having regular Dahlia shows each year.

While the writer regrets very much the present abandonment of the society, yet he feels it is much better so, than to have it diverted from the original broad plan on which it was organized and on which it will, undoubtedly, in the near future, be reorganized and successfully carried to a glorious future.

It is most gratifying to the writer to announce in this fifth edition of the book "The Dahlia," the reorganization of the American Dahlia Society in May, 1915, along the broad lines on which it was first organized with the result that we now have about three hundred and twenty-five members in good standing and gave in September, 1915, one of the finest Dahlia exhibitions ever given. The society is on a good financial basis having a comfortable surplus after paying all expenses.

A number of local horticultural societies have become affiliated with the American Dahlia Society. We mention here a list of officers and committeemen for 1916:

LIST OF OFFICERS 1915-16.

President.

Richard Vincent, Jr. White Marsh, Md.

Secretary.

J. Harrison Dick 1426 Seventy-third St., Brooklyn, N. Y.

Treasurer.

F. R. Austin Tuckerton, N. J.

Vice-President.

Geo. L. Stillman Westerly, R. I.
Representing the North.

Leonard Barron Garden City, L. I.
Representing the East.

J. B. Norton College Park, Md.
Representing the South.

W. W. Wilmore Denver, Colo.
Representing the West.

Executive Committee.

Geo. W. Kerr Philadelphia, Pa.

I. S. Hendrickson Flowerfield, L. I., N. Y.

J. Duthie Oyster Bay, N. Y.

P. W. Popp Mamaroneck, N. Y.

Nomenclature Committee

Prof. F. H. Hall Geneva, N. Y.

L. K. Peacock Berlin, N. J.

Geo. W. Fraser Storris, Conn.

E. S. Brown East Moriches, L. I., N. Y.

James Kirby Huntington, N. Y.

Every Dahlia lover should become a member of the society which was organized and is being conducted in the interests of the Dahlia and for the benefit of the amateur grower. The initiation fee is one dollar, active membership dues two dollars each, associate membership dues one dollar each. Bulletins are issued from time to time and it is proposed to issue a year book each year. The American Dahlia Society is affiliated with the Society of American

Florists and Ornamental Horticulturists and arrangements have been made whereby local societies may become affiliated with the American Dahlia Society for the sum of ten dollars per year. At the present rate of growth it promises to eclipse all other floral societies in point of numbers and enthusiasm. Any information may be secured by writing to the Secretary, Mr. J. Harrison Dick, 1426 Seventy-third St., Brooklyn, N. Y., or to any of the other officers or members of committees.

In connection with the American Dahlia Society we call attention to the official trial grounds at Geneva Experimental station conducted by Prof. F. H. Hall. Prof. Hall will have growing this year, about three thousand varieties where everyone interested in Dahlias may go and see them.

Prof. Hall also issues a Dahlia Bulletin which may be procured by writing to him requesting it to be sent, enclosing stamps for return postage, as long as the present edition lasts.



TYPE OF CENTURY DAHLIA

CHAPTER XIII

SELECT LIST OF VARIETIES.

ON THE following pages will be found the very cream of all the new standard varieties, carefully selected from the thousands of varieties now in cultivation. The varieties named in each class represent a complete range of colors and forms, and each is the best of its color and type. Each collection is correctly classified. Descriptions are approximately correct, although it will not be amiss to state here that the Dahlia varies in different locations and under different conditions, especially climatic conditions. For instance, Sunningdale is a pure white in England, while in America it is a delicate pink. There is also a difference in the size, many of the varieties blooming much larger early in the season and gradually opening smaller and lighter as the season advances, especially during the long, cool nights and short days of September and October.

This list is thoroughly revised right down to date, and in many cases where old and favorite varieties have been omitted, it is only because newer and better varieties have taken their places.

Our object in presenting this list is not to give a collection of all the good Dahlias, but a select list of the very best only.

CACTUS DAHLIAS

- A. D. Stoop.**—Rich crimson with darker center; an excellent garden variety with good stems.
- Aegir.**—Bright vermilion crimson. Unique distinct form.
- America.**—Large, blush-pink, striped penciled and spotted carmine. Long slender petals.
- A. Morgan.**—Deep, rich crimson; very fine.
- Amos Perry.**—Brightest vermilion-scarlet.
- Arthur Picquart.**—A very pleasing shade of soft salmon pink.
- Aschenbrodel.**—Orange pink, with delicate yellow tips. Very distinct and effective.
- Auburn Beauty.**—An exquisitely formed autumn shade variety; yellow, shaded bronze red.
- Aurora.**—Reddish apricot, suffused pink tipped white.
- Bianca.**—Very large and fine; color deep rose.
- Blenda.**—Rosy crimson with cream base, finely formed flower with long, narrow incurved petals.
- Bosnia.**—A most unique form, with cleft or stag-horn petals; rich orange.
- Bridal Robe.**—One of the very best white cactus, with large full flowers with great substance and keeping qualities.
- Brigadier.**—Bright crimson; large full flowers.
- Brittania.**—Soft salmon, suffused pink.
- Butterfly.**—Well named; large, well-formed flowers; deep crimson, tipped white.
- Candeur.**—Large creamy white with long stems.
- Celia.**—Rich pink; a fine free bloomer.
- Charm.**—Yellow, shaded darker; tipped white.
- Chas. Clayton.**—Dazzling red; very free.
- C. H. Curtis.**—Rich scarlet crimson, very large; very large incurved petals.
- Citizen.**—Rich dark red.
- Clara.**—Soft mauve, tipped yellow.
- Clara J. Stredwick.**—Salmon, shaded darker; very fine.
- Claudius.**—One of the very best; bright, bold crimson, of largest size, with long narrow petals.
- Cockatoo.**—Clear yellow, tinted fawn, tipped white. The flowers are very large, of beautiful form.
- Colado.**—A very fine garden variety, free and continuous bloomer; color bright carmine cerise.
- Comedy.**—Yellow striped and penciled red. The flowers are of good size and fine form.
- Comet.**—Very large, silvery lake, penciled and spotted crimson.
- Conquest.**—One of the very best; dark rich crimson maroon.
- Conrad.**—Yellow, blending with terra-cotta; very fine petals; largest size and a very profuse bloomer.
- Countess of Lonsdale.**—Yellow, suffused salmon red, tinged violet.
- Country Girl.**—Large, deep golden yellow, tipped bright amber. Beautifully incurved petals.
- Crepuscle.**—Yellow shaded deep orange; large, splendidly formed flowers.
- Crescent.**—Bright coral red, shaded yellow; a fine exhibition flower.

- Crystal.**—One of the very finest, clear, soft pink cactus; flowers are of enormous size with long, narrow, incurved petals.
- Dahlia num.**—Color is a rich creamy white, shading to primrose at the center and tinting to white at the tips.
- Delicat.**—Purple, richly shaded.
- Dr. Kendall.**—An excellent autumn shade variety; bright yellow shaded rich orange; an improved Wm. Marshall.
- Duchess of Marlboro.**—Golden orange overlaid solferino; large, long drooping stems.
- Echo.**—A fine formed flower of a distinctly distinct shade of rose.
- Effective.**—A very distinct primrose, shaded amber.
- Electric.**—Rich, clear canary yellow; each petal heavily tipped white; delicate and chaste.
- Elsa.**—White, suffused and edged pink.
- Emu.**—Rose base, shaded crimson; very fine form.
- Etenderd de Lyon.**—Rich carmine rose, shaded darker; very large and entirely distinct.
- Eureka.**—Distinctively beautiful, bright purple; a splendid flower with long, narrow petals.
- Evening Star.**—A fine "autumn shade" variety; beautiful golden center, shading to bright terra-cotta.
- Excelsior.**—A splendid garden and exhibition variety; color rich velvety maroon.
- Exquisite.**—Shades of gold and amber.
- Faunus.**—Yellow shading to rosy scarlet; long, narrow petals. Height, 4 feet.
- Flag of Truce.**—A splendid large, pure white. Height, 4 feet.
- Flagstaff.**—A fine cut-flower variety; carmine tipped rosy mauve, yellow center; long stiff stems.
- Flame.**—Bright orange scarlet; bright and effective. Height, 3 feet.
- Flamingo.**—Vermilion-crimson.
- Floradora.**—Beautiful pure garnet; splendid form and free bloomer.
- Florid.**—Bright scarlet; beautiful flowers, with long narrow petals, borne on long stems.
- Frances White.**—A large, beautifully-formed flower; pure white, shading to sulphur white at center.
- Fulgent.**—Brilliant crimson-scarlet; flowers large with full center; an early and free bloomer.
- Gaillard.**—Bright vermilion red; large with long, slender petals.
- Galathea.**—White suffused violet rose, shaded mauve.
- Gelber Printz.**—New, clear yellow cactus.
- General Buller.**—Rich velvety maroon, tipped white; sometimes called the cactus "Frank Smith."
- General French.**—Orange terra-cotta; fine for decorations.
- General J. B. Seth.**—Very large and early; color rich strawberry red.
- Germiston.**—Dark glowing crimson; flowers large with long, narrow petals; an early and free bloomer.
- Gluck Auf.**—Large rich orange; dwarf habit.
- Golden Eagle.**—Very large; bright yellow, suffused rose and fawn; one of the best.
- Golden Gate.**—A very large hybrid-cactus of a rich, deep golden yellow suffused and shaded fawn.
- Golden Plover.**—Golden yellow, shaded bronze toward the tips; large and fine, with long, narrow petals.
- Goldland.**—Clear yellow; an early and profuse bloomer, medium size, fine form.
- Goliath.**—Yellow, suffused and shaded salmon.
- Great Western.**—Very large, bright purple; entirely distinct.
- Gwen Tucker.**—An exquisite cactus of finest form, with long, incurved petals; soft flesh pink.
- Harlequin.**—Bright carmine, edged and tipped white; distinct and striking.
- H. H. Thomas.**—Beautiful deep rich crimson; very large; splendid incurved form.
- H. Shoesmith.**—Brilliant vermilion-scarlet; splendid form; long slender quill petals.
- Humming Bird.**—Distinct, yellow tipped white.
- Hyacinth.**—Yellow, shading to mauve pink.
- Ideal.**—A truly ideal variety; splendid form with long stiff stems; color rich bronze yellow.
- Iolanthe.**—Deep coral red, tipped gold; a large, well-formed flower with long stiff stems.
- J. B. Briant.**—Rich yellow, of immense size. Petals long, narrow and beautifully incurved.
- J. B. Fry.**—Primrose yellow, shading to delicate lilac rose at tips.
- J. B. Riding.**—Golden yellow, shaded darker.
- J. H. Jackson.**—Very large; rich velvety maroon.
- Johannesburg.**—Immense size; deep yellow, with bronze shading; a free bloomer.
- John Woolman.**—Scarlet, shaded rose; a large finely formed flower; early and free bloomer.
- Juliet.**—Rosy pink tinting lighter toward the center; very large, with long incurved petals.
- Jupiter.**—Yellow at base, passing to salmon rose at tips; the whole striped and penciled bright crimson.
- Kalif.**—Very large; pure scarlet.
- Killarney.**—Bright orange; large fine form and free bloomer.
- Kingfisher.**—Color distinct, pure lilac; beautiful form; a splendid exhibition flower.
- Kriemhilde.**—Deep rosy pink with lighter center.



CACTUS DAHLIA, MAGPIE

- Lacemaker.**—Deep carmine; suffused and often tipped white; very free flowering.
- Lady Fair.**—Primrose tinged soft pink; very distinct.
- Lady Swathling.**—Very large; clear yellow, shading to deep salmon pink.
- Lawine.**—A magnificent flower of largest size; white suffused blush.
- Leda.**—Cream, shading to deep violet rose.
- Leuchtfueer.**—Fine form; bright red, shaded darker.
- Liberty.**—Rich, velvety maroon heavy tipped bright crimson.
- Lustre.**—Scarlet-vermilion, shading to crimson; an early, free and continuous bloomer.
- Lyric.**—Large, rich yellow, shaded bronzy red; early and profuse bloomer.
- Magnet.**—Salmon buff; fine.
- Magpie.**—(See page 61.) Distinct; color varies from delicate pink to rich maroon, with intermediate variations.
- Marathon.**—Very large; yellow, shaded rosy carmine.
- Marg. Bouchon.**—A charming, bright, lively pink, tinting to flesh pink at center; splendid form.
- Marjorie Castleton.**—Rosy pink, tinted lighter toward center and tips.
- Mary Farnsworth.**—Pure yellow, heavily tipped pure white; distinct.
- Mary Purrier.**—Large, rich red; fine form, long stems.
- Mary Service.**—Bright salmon, edged and overlaid lilac.
- Master Carl.**—Bright orange salmon; the largest cactus dahlia grown.
- Masterpiece.**—Soft sea amber at base of petals passing to lilac rose at tips.
- Mauve Queen.**—Beautiful clear mauve.
- Mercury.**—Yellow striped and penciled crimson.
- Millicent.**—Orange carmine; very free.
- Miss Stredwick.**—Very fine and large; rose and white.
- Miss Wilmott.**—Orange, shading to scarlet; large, early and free, with long, stiff stems.
- Mme. Desmaris.**—Bright rosy scarlet, tinting lighter at tips with golden suffusion.
- Mme. Eschenauer.**—Yellow at base of petals, passing to sulphury white suffused and tipped rosy lake.
- Mme. Henri Cayeux.**—Soft clear pink with lighter center; very fine.
- Model.**—Very pleasing, yellow passing to rose.
- Monarch.**—Bright bronzy red, yellow center; large, fine exhibition flower.
- Morning Glow.**—Soft golden yellow, tipped amber; very large and profuse bloomer.
- Mrs. Brandt.**—Very large; yellow, shading to salmon buff; splendid form.
- Mrs. C. G. Wyatt.**—A beautifully formed pure white cactus, with long incurved petals.
- Mrs. C. Page.**—Rich crimson.
- Mrs. D. Fleming.**—Very large; pure white, with long, narrow, incurved petals and long, stiff stems.
- Mrs. De Luca.**—Golden yellow, tipped orange; very fine.
- Mrs. F. C. Stoop.**—Fine yellow; good stem.
- Mrs. H. J. Jones.**—Scarlet, tipped white; bright and effective.
- Mrs. J. P. Mace.**—Very large, of beautiful regular form. Color, soft shell pink.
- Mrs. H. Shoemith.**—The best pure white cactus dahlia.
- Mrs. Seal.**—Deep maroon, tipped light rose.
- Nancy Mae.**—Dark, rich cardinal red.
- Nellie Riding.**—Deep crimson, each petal tipped pure white.
- Nerthus.**—Glowing, bronzy orange yellow, tipped carmine rose.
- New York.**—Very large; orange yellow, shading to rosy salmon.
- Nibelungenhort.**—Immense flowers, 7 to 8 inches across; rich golden apricot, suffused old rose.
- Perle Hilde.**—A delicate shell pink, sport of Kriemhilde.
- Phoenix.**—Rich cardinal red with carmine markings; large and fine.
- Pink Pearl.**—Soft rosy pink; an early and profuse bloomer.
- Pius X.**—A superb snow white; a strong grower and free bloomer.
- Prima Donna.**—Large creamy white, with long slender petals.
- Primrose Queen.**—A splendid flower with long, narrow, incurved petals; clear primrose yellow.
- Prince of Yellows.**—Soft, golden yellow; very profuse bloomer.
- Regularity.**—Bronzy yellow at base, shading to rich red; with long, narrow, incurved petals.
- Reine Cayeux.**—Dark, rich red; an early and profuse bloomer.
- Reliable.**—Salmon yellow, shading darker; very profuse.
- Rev. D. R. Williamson.**—Rich velvety crimson.
- Rev. T. W. Jamison.**—Yellow, suffused lilac.
- Rheinkoenig.**—A large and very early and free-blooming pure white cactus.
- Rheingau.**—Very large; brilliant scarlet, produced freely on long, stiff stems.
- Richard Box.**—A superb yellow, of large size and splendid form; clear light yellow.



GREAT WHITE CACTUS DAHLIA, MRS. D. FLEMING



SNOW WHITE CACTUS DAHLIA, SNOWDEN

Rosy Morn.—Bright carmine rose, tinting lighter toward the base of the petals.

Satisfaction.—Soft pink, with long, narrow, incurved petals.

Sequoia.—Large golden bronze; fine form, on long, stiff stems.

Sherlock.—Bright orange cinnamon; an early, free and continuous bloomer on long stems.

Signal.—Rich red, of perfect form.

Snowden.—A beautiful pure white, of largest size, borne on long, slender stems.

Splendour.—Very fine rich crimson.

Stability.—Large and fine; color clear carmine rose, distinct.

Standard Bearer.—Bright, clear scarlet; very profuse.

Stormer.—Very large, deep scarlet; long, narrow, pointed petals.

Striped Kriemhilde.—A striped sport of Kriemhilde. Color white, striped pink.

Success.—Clear yellow; free on long stems.

Sunset.—Yellow at base, shading to bright apricot; very full, free.

Sweet Briar.—One of the loveliest shades of clear, soft pink; very long, narrow, incurved petals.

T. G. Baker.—Very large, finely-formed flowers on long stiff stems. The best clear, bright yellow cactus.

The Bride.—Pure white; medium size, splendid form and an early bloomer.

The Earl.—A fine exhibition dahlia; rich ruby crimson.

The Imp.—Probably the darkest Dahlia grown; color richest maroon, shaded black.



CACTUS DAHLIA, SATISFACTION

The Lion.—Probably the largest of all cactus Dahlias; color yellow, shading to reddish salmon.

The Pilot.—Yellow, heavily tipped bright terra-cotta.

Thomas Oberlin.—Intense scarlet; very fine large flowers with long incurved petals.

Trojan.—Pale yellow, outer petals suffused salmon; very large and full; profuse.

Una.—A beautiful soft pink with very long incurved twisted petals with stag horn tips.

Vater Rhein.—Yellow, suffused salmon rose; flowers are very large and borne erect.

Vedette.—Scarlet, tipped white; fine.

Wacht Am Rhein.—Soft Hydrangea, pink tinting to white at center.

Walkure.—Sulphur yellow, shading to golden yellow at center; very large free bloomer.

W. E. Dickson.—Brilliant crimson.

Wellington.—Rich crimson scarlet; fine for exhibition.

White Kriemhilde.—A pure white sport of Kriemhilde; a good commercial white.

White Swan.—A beautiful pure white cactus.

Wodan.—Old gold at center, shading to salmon rose; flowers very large and beautiful.

Wolfgang Von Goethe.—Very large, rich apricot, shaded carmine.

W. T. Rodgers.—Crimson, shaded velvety maroon.

Wunderkind.—Light yellow passing to soft rose at tip of petals; very pleasing and effective.

Yellow King.—Immense flowers; clear light yellow.



DECORATIVE DAHLIA, NYMPHÆA

DECORATIVE DAHLIAS

- A. C. Ide.**—Dark velvety red.
- American Beauty.**—Very large; bright crimson; the giant flowers are perfectly double.
- Armentine Desblains.**—Soft pink, tinting cream; fine.
- Annie Doppenberg.**—Clear light yellow.
- Aug. Nonin.**—Very large; bright rich scarlet.
- Beloit.**—Immense size; the rich crimson flowers are of beautiful semi-cactus form.
- Bertha von Suttner.**—Beautiful soft mauve pink, very large; plant is dwarf.
- Black Beauty.**—Deep velvety maroon, shading black.
- Bloemhove.**—Very large and free flowering; color lilac rose.
- Blue Oban.**—Soft lavender blue; nearest to blue in Dahlias.
- Breeze Lawn.**—Very large, fine form; color fiery vermilion.
- Brittannia.**—Large, clear lilac. New.
- Bronze Beauty.**—Yellow, suffused bronze red.
- Carmen.**—A pleasing shade of orange red. New.
- Chanoine Ducrot.**—Immense size. Vivid scarlet pointed petals.
- Charlotte.**—A fine bedding variety; color rich orange.
- Claribel.**—Bright imperial purple.
- Clio.**—Dark lilac; a very profuse bloomer.
- Constancy.**—Golden terra-cotta, shaded reddish brown.



DECORATIVE DAHLIA, JACK ROSE

Corrona.—A miniature pure white of perfect form and extremely free flowering.

Corry.—Clear soft rosy lake.

Crimson Giant.—Richest glowing crimson.

Cuban Giant.—Rich velvety purple, shaded maroon.

Delice.—The best pure bright rose pink, entirely distinct, beautiful form.

Dr. Tyrrell.—The flowers are 6 to 8 inches across and 4 inches deep, with broad reflex pedals. A rich, golden bronze.

Esmeralda.—Full, deep flowers; pale pink, heavily tipped deep rich carmine pink.

Fantasie.—A new acquisition; salmon shaded blue; distinct.

F. Grinsted.—Very large, clear yellow, striped red; strong, vigorous grower; distinct.

Fireburst.—An immense flower; soft red, with long stems.

Flamingo (Red).—Immense size and most fantastic form with long broad twisted and curled petals. Color brilliant red.

Flora.—Pure white; large, early, profuse and continuous.

Gabriel Delaon.—Dark velvety maroon.

Gaiety.—A beautiful and striking variety; bright cherry red and tipped white.

Giant of Stuttgart.—Immense size; vivid crimson.

Glorie Lyonnaise.—Golden yellow, tipped rosy carmine; large, early and profuse.

Golden Wedding.—Very large, rich golden yellow.

Grand Duke Alexis.—White, edged lavender, quilled petals.

Guillaume de St. Victor.—White suffused soft mauve rose.

Hallebarde.—Very large, clear yellow, suffused scarlet; distinct and striking.

Harpon.—Citron yellow, heavily tipped red.

Henri Jordan.—Very profuse; rich red.

Henry Patrick.—Large, snow-white flowers, beautiful form and great substance.

Hohenzollern.—Very large and fine dark velvety red.

Hortulanus Budde.—Bright orange red; immense size.

Hortulanus Fiet.—Salmon, yellow center; very large.

Hortulanus Witte.—Splendid pure white.

Jack Rose.—The best crimson, for garden or cutting, that brilliant crimson.

Jan Olieslagers.—A fine clear yellow.

Jean Wood.—White suffused violet mauve; irregular petals.

J. Lidden Pennock.—A dwarf branching plant, producing immense rich, plum-colored flowers.

John Wanamaker.—A beautiful variety; color rich orchid pink; very profuse bloomer; must be disbudded.

Jumbo.—Deep red, shaded maroon.

Kaiserin Augusta Victoria.—Large, snow-white; early and profuse bloomer.

Kinds Pink.—Soft pink, with lighter center.

Kate Seybold.—White suffused carmine and maroon, lightly edged white.

Katherine De La Mare.—A surpassing delicate tinted variety that appeals; primrose, passing to creamy white, lightly suffused soft rose.

King Albert.—Rich velvety plum; very large and fine.

La France.—Rich cerise.

Le Grand Manitou.—New; immense size; pink, striped rich crimson.

Lyndhurst.—Brightest vermilion; the best bright red for cutting. An early free bloomer.

Maid of Kent.—Rich cherry red, tipped white.

Manzanola.—Bright fiery red.

Marianne.—Distinct purple and white.

Meadow Gold.—Sulphur yellow, with pink shading on outer petals.

Melody.—Color clear canary yellow, tinting to creamy white at the tips; one of the finest.

Mephisto.—Rich velvety crimson.

Minnie Burgle.—The finest red Dahlia to date; rich cardinal red.

Minnie McCullough.—Very striking. Soft golden yellow, tipped bronzy red.

Miss Alice Roosevelt.—Very large white shaded lilac.

Mme. Aymond.—Very fine shade of mauve.

Mme. A. Lumiere.—White, tipped bright violet red.

Mme. Marz.—Immense size; pure white; probably the largest white Dahlia; perfectly full.

Mme. Vanden Dael.—Very large; silvery rose, shaded rose.

Mont Blanc.—A splendid large, white, with long, stiff stems.

Morocco.—Rich maroon, tipped white; very large, with long, stiff stems.

Mrs. C. H. Breck.—A beautiful variety of the Hybrid class; soft yellow, suffused carmine.

Mrs. Chas. Turner.—Very large; clear canary yellow.

Mrs. Fleers.—Bright cherry red.

Mrs. Harrison Dick.—One of the most remarkable decorative Dahlias. The flowers are large of full form; yellow at the center passing to orange and shading to amber at the tips. The plant is a sturdy grower, bearing the large flowers on long erect rigid stems.

Mrs. J. Gardner Cassett.—Very large; bright cerise pink.

Mrs. Roosevelt.—Very large soft pink.

Nymphæa.—One of the most delicately beautiful white, suffused shrimp pink.

Oban.—Very large; rosy lavender; overlaid silvery fawn.

Old Gold.—One of the richest autumn shades, old gold, shading to orange.

Orange Beauty.—An exquisite glistening orange shade; medium size and perfect form.

Orange King.—Richest shade of orange; very profuse bloomer.

Orange Pearl.—Rich orange tipped white; distinct and pleasing.

Oregon.—Intense oriental red with carmine suffusion; very fine.

Papa Charmet.—Bright coral red, overlaid dark velvety crimson; the flowers are large.

Perle de Lyon.—Splendid pure white, similar to Perle d'Or, but better.

Perle de Parc.—Very large; white with long stiff stems; profuse bloomer.

Pink Jack Rose.—Rose pink sport of Jack Rose.

President Fallieres.—Bright orange red.

Prince of Orange.—A rich glowing orange.

Princess Juliana.—Creamy white; very free.

Prof. Lauder.—Rich crimson carmine, striped red and tipped white; curled and twisted petals.

Professor Mansfield.—A pleasing combination of yellow, red and white.

Propaganda.—Large and fine; primrose yellow, lightly suffused red.

Queen Mary.—An improvement over Delice, with full rounded center and a softer shade of pink.

Richmond.—An improved Jack Rose; an early, profuse bloomer; color rich glowing crimson.

Roem van Nykerk.—Dark rich purple.

Sherlock Holmes.—A distinct lilac blue shade.

Source de Feu.—Orange red, suffused yellow.

Souv. de Gustav Doazon.—Soft scarlet red.

Souv. de M. Silvent.—Another giant flower; bright velvety scarlet.

Sunlight.—Bright lemon yellow.

Sylvia.—Deep pink, tinting to flesh pink at center; large perfect form.

Tenor Alvarez.—A grand autumn variety. Bronze red, striped and penciled velvety brown.

Torpille.—Very large, white, overlaid and striped red and plum.

Ulysses.—Very large; deep rich crimson.

Variabilis.—Varies from white to rich bronzy yellow at base of petal.



MOROCCO

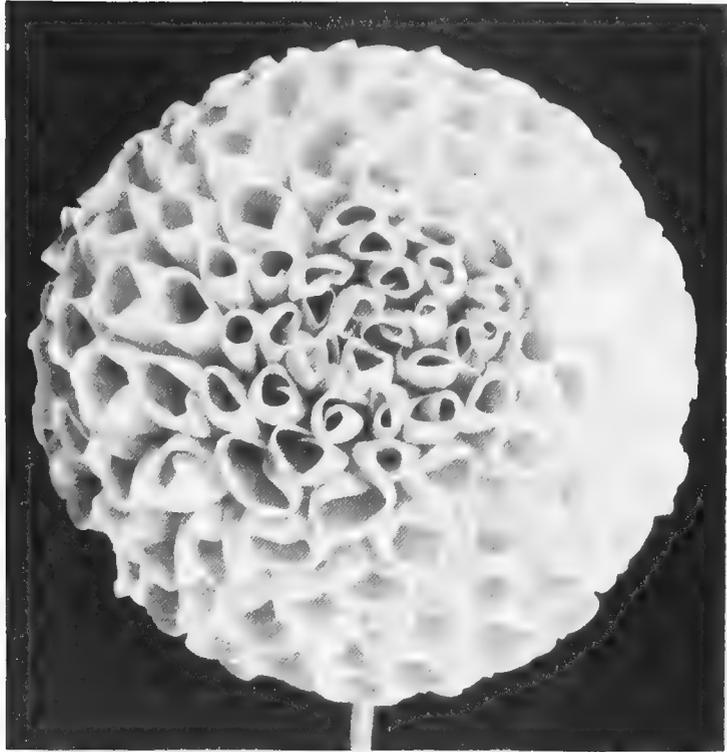


DECORATIVE DAHLIA, MRS. J. GARDNER CASSATT

- Virginia Maule.**—Very large; white, delicately suffused shrimp pink.
Wm. Agnew.—Very large; dazzling crimson scarlet. Early and profuse bloomer.
Yellow Colosse.—Very large; light or lemon yellow; a most remarkably free bloomer.
Yellow Duke.—Canary yellow, quilled petals; a giant flower on long stems.
Zeppelin.—Large extra fine; color light lilac.

BALL DAHLIAS

- A. D. Livoni.**—Clear, bright pink, quilled petals; the best pink show Dahlia.
Admiral Schley.—Rich garnet, tinting to carmine and white at tips of petals.
Agent.—Delicate, soft pink.
Arabella.—One of the loveliest; soft primrose, shaded and tipped rose.
Arthur Le Favour.—Very large; buff, striped dark red.
Caleb Powers.—Shell pink; large and fine.
Chas. Lanier.—Very large; golden yellow, shaded amber.
Chieftain.—Purplish lilac; large, distinct.
Claret Cup.—Rich claret, tipped gold.
Colonist.—Coral red, edged lighter; splendid form.
Daniel Cornish.—Fine terra-cotta red.
David Johnson.—Fawn or salmon, shaded rose; quilled, fine.
Della Dorsheimer.—Large, soft shrimpping, quilled petals; long, slender stems.
Dorothy Peacock.—The world's best pink.
Dreers White.—A pure white of large size and formation of Grand Duke Alexis.
Dr. Keynes.—Buff, tipped red; fine.
Duchess of York.—Yellow, flushed salmon pink, edged red.
Elegans.—Bright rosy purple, tipped white, quilled petals.
Emily May.—Yellow, blotched bronzy red.



BALL DAHLIA, A. D. LIVONI

- Ethel Britton.**—Blush white, edged rosy purple.
- Ethel Maule.**—A magnificent pure white, of largest size and fine form.
- Fern-Leaved Beauty.**—Rich red, tipped white, with fern-like foliage.
- Frank Smith.**—Rich maroon, tipped white.
- George Rawlings.**—Rich, velvety maroon.
- Gold Crest.**—Yellow, striped and blotched red.
- Goldfinch.**—Yellow and red.
- Goldfinder.**—Yellow, tipped red.
- Gold Medal.**—Brightest yellow, spotted and penciled vermilion.
- Goldsmith.**—Yellow, edged and striped bright crimson; a magnificent flower.
- Gov. Guild.**—Very large; pure white with long, stiff stems; extra.
- Gracchus.**—Bright orange and buff.
- Hannah.**—Large; soft pink, tinting to cream center, with fern-like foliage and long stems.
- Harry Keith.**—Large; rosy purple.
- Henry Walton.**—Yellow, edged vermilion.
- Isabel.**—New and distinct; primrose, shading to buff, overlaid and tipped rose.
- John Bennett.**—Fine form; yellow, tipped bright red.
- John Rawlings.**—Rich crimson.
- John Walker.**—Splendid snow-white show Dahlia; perfect form and free bloomer.
- Keystone.**—Pleasing lilac pink, penciled crimson; very fine.
- Le Armour.**—Very large; bright, lively pink on long, stiff stems; very fine.
- Lucy Fawcett.**—Very large; pale yellow, penciled carmine.
- Marjorie.**—Buff, tipped carmine; very fine.
- Maud Fellows.**—A delicately beautiful flower, soft pink, of splendid form.
- May Lomas.**—White, suffused soft lavender, edged blue.
- Merlin.**—Very early; soft scarlet; fine.
- Meteor.**—Immense size; bright vermilion.
- Miss Alice King.**—A splendid pure white.
- Miss Browning.**—Clear, rich, canary yellow, tipped white; beautiful and chaste.
- Miss F. M. Shearer.**—A lovely variety; deep pink with light tips, giving it a soft, warm effect.

- Mme. H. Furtado.**—Very large; pure white; a free bloomer, with long stems.
Mme. Von Tomme.—Very large; yellow and red.
Mrs. Fisher.—White, edged rose.
Mrs. Gladstone.—Soft, shell pink.
Mrs. Saunders.—Yellow, tipped white; large and fine.
Norma.—Yellow, shaded golden amber.
Octavia.—Yellow, shaded orange.
Paul Bert.—Immense scarlet-red flowers on very long stems.
Penelope.—White flaked, rosy lake; beautiful and chaste.
Perfection.—Very large; soft lilac.
Pink Swan.—A silvery rose pink, sport of white Swan.
Plesance.—Intense vermilion red; very large and fine.
Prince Bismarck.—Rich, velvety purple.
Princess Victoria.—The finest pure yellow show Dahlia. Clear, pure canary.
Queen Victoria.—Rich golden yellow.
Red Hussar.—Richest dazzling cardinal red. Best red show Dahlia for cutting.
Rose.—An exquisite ball Dahlia of full, regular form and a bright, lively carmine rose.
Ruby Queen.—Ruby red, richly shaded.
Souv. de Mme. Alfred Moreau.—Very large; cerise pink.
Storm King.—The earliest white show Dahlia; perfect form and extremely profuse bloomer.
Susan.—Soft blush pink; medium size, splendid form and free bloomer.
Tom Jones.—Cream yellow, edged mauve pink; especially fine.
Uncertainty.—Varies from blush pink to dark red, with all the intermedial variations.
Victor.—Fine, rich crimson.
Warrior.—Intense scarlet.
White Dandy.—A large snow-white Dahlia of perfect ball form on very long stems.
White Swan.—Large; pure white; reliable.

POMPON DAHLIAS

- Adelaide.**—Blush, edged lavender.
Adrienne.—Crimson, tipped scarlet.
Alewine.—White, suffused pink.
Arthur West.—Rich crimson.
Belle of Springfield.—Very small; soft red, sometimes tipped white.
Bob.—Yellow, edged scarlet.
Catherine.—Clear canary yellow.
Cheerfulness.—Old gold, tipped crimson.
Clarissa.—Pale primrose.
Crusoe.—White, heavily edged pink.
Daisy.—Pleasing shade of amber-salmon.
Elfin.—Soft, creamy white.
Fairy Queen.—Yellow, edged rose.
Girlie.—Pinkish mauve.
Glow.—Very fine; rich coral.
Guiding Star.—Pure white; serated petals.
Hedwig Pollig.—Very distinct; shades of red, tipped white.
Helen Lambert.—Clear yellow.
Klein Domitea.—Bright, golden terra-cotta. Very profuse.
Laddie.—Light crimson, edged rose.
Lassie.—Yellow, edged and tipped rose.
Lilian.—Primrose, edged pink.
Little Beauty.—Soft, silvery pink; closely quilled petals.
Little Frank.—Amber, shaded salmon.
Little Herman.—Cardinal red, tipped white.
Little Prince.—Crimson, tipped white.
Little Sweetheart.—Red, tipped white.
Madeline.—Primrose, edged rosy-purple.
Mars.—Very bright scarlet.
Neatness.—Salmon-pink.



POMPON DAHLIAS

- Nerissa.**—Soft rose-pink.
Phoebe.—Deep orange.
Raphael.—Darked maroon; quilled petals.
Rougiere Chauviere.—Crimson, pink and white; distinct.
San Toy.—White, heavily edged rosy carmine.
Seashell.—Soft, shell pink.
Snowclad.—The best pure white pompon.
Splendens Imbricata.—Brightest scarlet.
Star of the East.—Pure white; long stems.
Sunshine.—Richest vermilion-scarlet; splendid little flowers on long stems.
Tom.—Soft, creamy yellow.
Violet.—Pure white.



ONE TYPE OF PÆONY DAHLIA

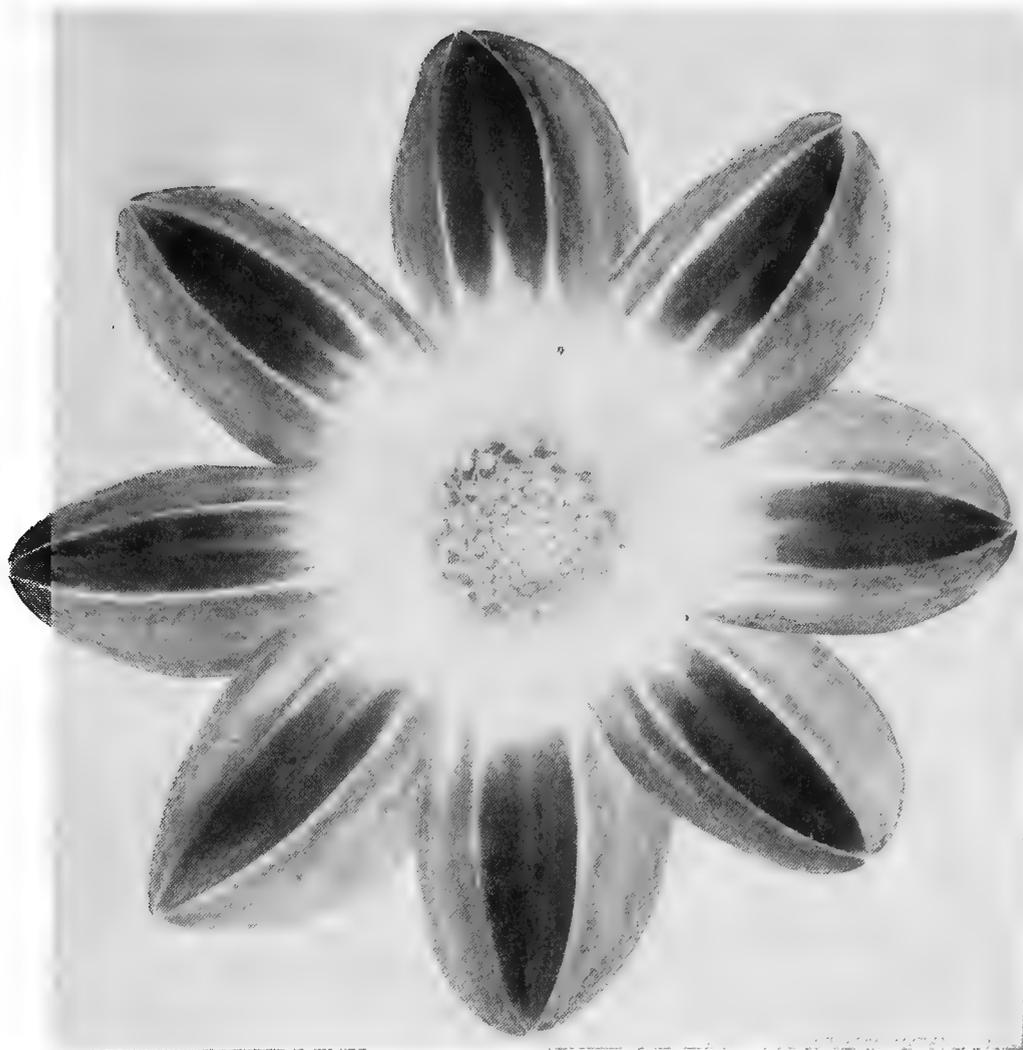
PÆONY DAHLIAS

- America.**—A beautiful Dahlia; pure shrimp-pink with golden suffusion; habit ideal.
- Andrew Carnegie.**—A fine, lively rose-pink.
- Ant. Rivoire.**—Very large; rich crimson; fine long stems.
- Bayard.**—Vivid orange-scarlet; veins and base yellow.
- Berch Van Heenstede.**—Primrose-yellow with rich, golden sheen; flowers of medium size; very free.
- Cæsar.**—Large, clear canary-yellow.
- Chatenay.**—A splendid, soft carmine-rose shaded crimson; good, stiff stems.
- Duke Henry.**—Large; bright crimson.
- Dremont van Bystein.**—Blue lilac.
- Doctor A. Kuyper.**—Orange.

- Doctor Perry.**—One of the darkest, a brilliant reddish-mahogany.
- Geisha.**—The most striking color combination; golden yellow, changing to bright scarlet at the center of the petal and back to gold at the tip.
- Gypsy Weaver.**—A rich shade of bronzy-yellow with pointed, twisted petals.
- Holman Hunt.**—Very dark rich crimson; large and fine; one of the best.
- H. J. Lovink.**—Very large; lilac.
- Ironmonger.**—Very large size, with long, graceful stems; pale lavender, with a delicate suggestion of pink throughout.
- King Leopold.**—Creamy yellow, shading to deep primrose.
- Konigen Emma.**—A charming shade of mallow or hollyhock-pink, the inner petals banded with gold.
- Konigen Wilhelmina.**—Immense fluffy flowers of pure white with yellow center.
- Lady Norma.**—Very large, well-formed flower; color soft salmon-pink.
- Leo XIII.**—A deep canary-yellow, entirely distinct in form; large; very free flowering.
- Lilac.**—Color soft lilac; immense flowers, with long broad petals; a strong vigorous grower with long stems.
- Landseer.**—Very large; rich crimson, shaded maroon, with velvety sheen.
- La Riante.**—Bright lilac; very large, beautiful flowers.
- Lord Milner.**—Yellow, suffused crimson.
- Louise Hogg.**—A seedling of the celebrated Geisha, but considered by many a great improvement over that variety. It is larger, a stronger grower, with darker foliage, and a more profuse bloomer. It is, however, entirely distinct from Geisha as the colors are softer and more subdued. A splendid companion for that variety. Color is light yellow at the base of the petal, shading to soft red at the center, tipped yellow. The flowers are immense, with long broad, twisted and incurved petals.
- Lullingstone.**—Very large; rich terra-cotta red; splendidly formed flower.
- Madame Van Loon.**—Orange.
- Monarch.**—A new American variety of enormous size, often 7 to 8 inches; rich crimson, shaded darker.
- Mondscheibe.**—Rich primrose yellow; very fine.
- Mrs. Carter Lewis.**—Pale lilac, suffused with rose.
- Mrs. G. Gordon.**—Very large; sulphur yellow, tinting lighter toward the tips.
- Mrs. McMundy.**—Lilac mauve; long stems; very free.
- Mrs. McKeller.**—Terra-cotta, shaded salmon.
- Mrs. Robt. Bates.**—Pink-white on long stiff stems; early and profuse bloomer.
- Mrs. Wm. Kerr.**—See illustration, page 2. One of the finest; large, of beautiful twisted, irregular formation; color rich cream, suffused pink, and overlaid carmine.
- Paul Kruger.**—Very large and fine; white suffused pink, shaded carmine.
- Peace.**—Pure white.
- Peacock's Black.**—Jet black in the bud, softening to a maroon black as the flowers expand. A novel feature is the center of the mature flower, which is also black instead of yellow as in other varieties.
- Peacock's Yellow.**—Immense size, clear canary yellow, of splendid form and substance. Undoubtedly the best clear yellow pæony.
- Phidias.**—A lovely shade of salmon-pink; long, stiff stems.
- Poinsettia.**—Rich geranium lake, shading to carmine red at tips; distinctive type.
- Porcupine.**—White, suffused and mottled Tyrian rose.
- Rembrandt.**—Dark yellow.
- Salome.**—Large and fine; a lovely shade of apricot.
- South Pole.**—An immense pure white flower of great substance and splendid form.
- Selma.**—Rose.
- Tansboro.**—Crimson and white; distinct.



BASKET CENTURY DAHLIAS



NEW CENTURY DAHLIA, GLADYS

NEW CENTURY

Alice.—A superb pure white century with long stiff stems.

Anna Long.—Clear rosy pink, with white band running through each petal; sometimes solid pink.

Apple Blossom Century.—A giant form of the lovely Apple Blossom Single; rich apple blossom pink, with soft pink zone around the yellow disc.

Autumn Century.—A great acquisition. The flowers are very large, with long, broad, slightly cupped and pointed petals. The color blends from yellow at the base of petals to a rich golden bronze. Long stiff stems and splendid keeper.

Barton.—Large, fine form and finish; color rich vermilion red.

Blush Century.—Very large; soft blush pink; height 4½ feet.

Brilliant.—This is one of the brightest, being a fiery geranium scarlet.

Bronze Century.—A great acquisition; very large, golden yellow, suffused and overlaid salmon-scarlet, giving it a rich bronzy effect.

Cardinal Century.—Very large; rich cardinal red; the best deep red. Height 5 feet.

Constant Century.—Like Twentieth Century, but holds its color, hence the name. Height 4 feet.

Congo.—Rich maroon, edged and flamed purple; very fine.

Contrast.—Vermilion tipped white, very effective.

Cream Century.—Color a rich cream which suggested the name. A fine companion to Mrs. Wendell Reber.

Crimson Century.—Rich crimson, rose band around disc. Height 4 feet.

- Delicatissima Century.**—Very large, with long, pointed petals. Color white, flushed pink.
- Dounie Century.**—Richest vermilion-red. Height 4 feet.
- Eleanor.**—Very large, white, heavily tipped lavender.
- Fringed Maroon Century.**—Rich velvety maroon, with long fringed petals.
- Fringed Twentieth Century.**—The first of a new race, with cleft or serrated petals. A great improvement of Twentieth Century, much larger, brighter color, while the stems are long, slender and stiff. Color bright rosy crimson, with lighter markings.
- Garnet Century.**—Rich garnet color, large; long, stiff stems.
- Geisha Century.**—This is an intensified Mrs. Wendell Reber. The inner half of the petal is a rich yellow, the outer half is an intensely rich scarlet. The Geisha colors, hence the name.
- George Young.**—An exquisite clear yellow century, very fine.
- Gertrude.**—An improved Twentieth Century, clear rosy crimson with white zone around the yellow disc, and white tips.
- Gigantea Alba Century.**—Snow white, of immense size; beautiful form. Height 5 feet.
- Gladys Century.**—Center of petals rosy crimson, with rose-pink band on either side and white zone around the yellow center.
- Gloxinia.**—A striking type of the Century Dahlia. Yellow zone around the golden disc; maroon band in center of petal, with crimson margin and tipped white. A striking, pleasing color combination.
- Golden Wave.**—Soft golden yellow; a very profuse bloomer, large and fine.
- Hazel Heiter.**—Rich crimson, shaded with white tips and white zone around yellow center.
- Iris Century.**—Immense size; purple blotch on rosy lake ground. Height 5 feet.
- Jack Harding.**—Rich velvety maroon, with a glowing satin sheen.
- James Weller.**—A gorgeous Autumn shaded Century. Immense size, rich yellow shaded to golden coppery bronze; long stems. A splendid exhibition and commercial variety.
- Josephine.**—The acme of perfection in snow-white. The flowers are very large, splendid regular form.
- Lavender Century.**—Immense size, splendid form; color soft lavender.
- Lemon Century.**—Clear lemon yellow edged lighter; large and fine, stiff stems.
- Leone.**—White flushed lavender; delicate and chaste.
- Madeline.**—Large and strikingly attractive, rose pink with white zone around the yellow disc.
- Margaret Long.**—Very large, soft pink suffused carmine.
- Model Century.**—Snow-white, very large, fine form, good substance, profuse bloomer on long stems.
- Mrs. J. C. Hance Century.**—Bright carmine-pink, with blush white disc. An exquisitely lovely flower, of largest size, with long stems.
- Mrs. Joseph Lucas.**—A combination of shades that we called autumn; it is a rich yellow overlaid bronzy-scarlet, lightened, suffused and edged salmon-rose.
- Mrs. Wendell Reber.**—
- Natalie.**—Bright rosy crimson; large and distinct.
- Nellie.**—Very large, white edged pink; a lovely combination.
- Orange Century.**—Rich orange; fine large flowers on long stems.
- Penciled Century.**—Rose pink, shaded cerise, penciled crimson; distinct. Height 4 feet.
- Poppy Century.**—
- Primrose Century.**—Very delicate and chaste, profuse yellow, shading primrose pink.
- Rose-Pink Century.**—The largest and best deep pink; enormous flowers on long 3 feet stems.
- Summer Girl.**—Very large, clear pure yellow, without tint or blemish; petals long and broad.
- Sunset Century.**—Rich yellow, tipped and shaded amber and bronze. Height 5 feet.
- Twentieth Century.**—
- Vermillion Century.**—Very large, brilliant vermilion, without shade or blemish.
- White Century.**—Immense size; snow-white. Height 5 feet.
- White Giant.**—Immense size, long broad rounded petals. Flowers are of great substance and borne on long, stiff stems. Color, snow-white.
- Wildfire Century.**—Century size, with the brilliant, rich scarlet of the old wildfire.
- Yellow Boy.**—Clear canary yellow; fine formed large flowers on long stems.

DUPLEX DAHLIAS

- Big Chief.**—Rich crimson, margined maroon. A very strong, vigorous plant, with fern-like foliage.
- Canary.**—Pure canary-yellow of very largest size; an early, free and continuous bloomer.
- Mme. J. Colssard.**—The color effect is most distinct and charming; bright rosy crimson, with lighter markings, and a pure white zone around the yellow disc.
- Sensation.**—Vermilion-red, tipped snow-white; distinct and striking.
- Souv. de Franz Liszt.**—Very large; crimson, richly shaded with white markings.
- Sunny Jim.**—Bright yellow, blending with red, deepening toward the end, and ending with a yellow tip.
- Variegated Liszt.**—Dark Oriental red, with yellow tips and markings.



NEW SINGLE DAHLIA, "VELVET," SHOWING SELECT TYPE
OF SINGLE DAHLIAS

SINGLE DAHLIAS (Old Fashioned)

- Advance.**—Richest crimson, shaded maroon; light zone around yellow center.
- Alba Superba.**—A beautiful pure white. Height 3½ feet.
- Ami Barillet.**—The maroon of purple foliage Dahlia. Color richest garnet.
- Apple Blossom.**—Delicate pink, heavily tipped deep carmine-pink.
- Blackbird.**—Maroon, shaded black, with red spot at base of each petal.
- Danish Cross.**—Scarlet, with white band running through each petal; very distinct.
- Florabunda.**—Soft lavender, with deep lavender zone around the yellow center.
- Gaillardia.**—Golden yellow, with a broad band of red around the yellow center.
- Hilda.**—Carmine-pink with zone of white suffused pink around the yellow center.
- Mary.**—An ideal single; clear, soft pink.
- Praxitelles.**—Richest maroon, tipped white; always true to type; distinct and effective.
- Rantendelein.**—Color pure white; each petal has a narrow margin of deep crimson on each side.
- Rebecca Mayhew.**—An absolutely perfect single white.
- Ruth.**—Pure white, margined yellow.
- Sardanopol.**—Rich scarlet, with band of orange through the center of each petal.
- St. George.**—The best clear canary-yellow single Dahlia.
- St. George Improved.**—Flowers clear canary-yellow and twice the size of St. George, on longer stems.
- Velvet.**—Velvety maroon, with red marking at base of each petal.
- White Cross.**—Soft rosy lake with a pure white stripe running through the center of each petal.



COLLECTION OF 12 COLLARETTE DAHLIAS

COLLARETTE DAHLIAS

This uniquely distinct class or type is rapidly gaining in popularity. The flowers are single with a row of smaller or collar petals around the center. These collar petals are generally distinct in color from the rest of the flower.

- Airdale.**—Garnet, shaded maroon flamed crimson, yellow base; crimson, maroon tipped white collar.
- Albert Maumene.**—Velvety crimson-purple, margined white, collarette white.
- Allston.**—Rich crimson; crimson and white collar.
- Altro.**—Crimson edged white; collar white, flushed crimson.
- Anoka.**—Large crimson and white, with white collar.
- Arbeka.**—Dark rich garnet; white suffused garnet collar.
- Arden.**—Rich bronzy red, collar yellow and red.
- Atglen.**—Rich maroon, flamed crimson; crimson and white collar.
- Autumn.**—Yellow, shading to bronzy red; rich yellow collar.
- Bajadere.**—Dark velvety crimson, banded maroon; collarette same shading.
- Banker.**—Rich scarlet; collar scarlet tipped yellow.
- Belmont.**—Rosy crimson tinting white at tip, and a white zone around center; collar white suffused rose.
- Burg Siefurch.**—Velvety brown, collarette red tipped light.
- Carlton.**—Bright garnet; garnet and white collar.
- Catlin.**—Scarlet tipped yellow; yellow suffused scarlet collar.
- Chabanne.**—Yellow and coral red; striking.
- Chalfont.**—Carmine tipped white; white collar, very effective.
- Century.**—A beautiful collarette of the Twentieth Century colors; crimson tinting to pink with white tips and white zone; crimson and white collar.
- Countess Hardegg.**—Carmine rose, white collar.
- Come. Chermeteff.**—Cream suffused red; light collar.
- Crown Princess Charlotte.**—Very large and distinct; bright chestnut red, with long, yellow collar.
- Diadem.**—Large, brilliant carmine rose; collar white with carmine markings.
- Diamant.**—Beautiful shade, velvety violet, light rose collar.
- Diomedes.**—Rose bordered white; white collar.
- Dorian.**—Crimson shaded maroon; crimson and white collar.
- Drayton.**—Very large, rich maroon, with white collar.
- Dr. Gerard.**—Rosy-purple, bordered and splashed white; white collar.
- Duch. M. Barbo.**—Yellow suffused red.
- Elgrave.**—Duplex collarette. Large pointed petals, rich maroon; collar maroon tipped white.
- Exposition de Lyon.**—Beautiful red; white collar.
- Fayette.**—Very effective, it being a duplex collarette; rich scarlet with bright yellow collars.
- Henri Farman.**—Yellow blotched red; cream collarette.
- Innovation.**—This is entirely distinct, as it is double with full high center when first opening. The largest of all, most attractive and effective. Color rich mauve with crimson base; carmine lavender collar petals.
- Johannesfeuer.**—Bright red; yellow collarette.
- Jules Buyessens.**—Rose; white collar.
- Jupiter.**—Bright yellow, shaded red; straw-colored collarette.
- Lanark.**—Crimson; collar white suffused carmine.
- Leitstein.**—Very dark crimson; white collarette.
- Lindsay.**—An exquisite variety. Rosy crimson, white tip and white zone; with white flushed crimson collar.
- Leuchtfeuer.**—Golden yellow, tinged with orange-red; sulphur-yellow collarette.
- Maurice Revoir.**—Rich crimson-maroon; white collarette.
- Merion.**—Yellow and scarlet. The "Geisha" collarette.
- Merton.**—Yellow suffused scarlet; clear yellow collar.
- Merville de Lyon.**—Yellow splashed red, yellow collarette.
- M. Empain.**—Red, with yellow collar.
- Mme. Claessens.**—Red, with yellow collar.
- Mme. File.**—Red with citron-yellow tips; long white and yellow collarette.
- Mme. E. Wauters.**—Crimson tipped gold, yellow base, with yellow collarette.
- Mme. F. G. Bruant.**—Rich velvety maroon, with white collarette; large and fine.
- Mme. L. Viger.**—Bright crimson pointed petals; white collar.
- Mons. Bourguignon.**—Wine red; buff collarette.
- Mons. L. Ferard.**—Rich rosy crimson, edged and marked white; very large collar of same color.

- Nantick.**—Velvety maroon; maroon and white collar.
Norman.—Rosy crimson, white collar.
Orphee.—Bright red, tipped yellow; orange collar.
Prince Carnival.—White margined dark red; white collar.
Prince de Venosa.—Beautiful shade of purple; white collar.
Prince Galitzine.—White suffused pink; white collar.
Princess Louise.—Carmine and white.
Purity.—Snow white; snow white collar.
Radlyn.—Soft, clear pink; collar same color.
Radnor.—Large, white tips and base with rosy purple blotch in center; collar white flushed crimson.
Regularity.—Very large and fine; scarlet with white collar.
Selwin.—Scarlet; with yellow collar.
Souv. de Bernadeau.—Beautiful shade of old rose; cream collar; very distinct.
Turpin.—Maroon, margined ruby wine; ruby red, tipped white collar.
Valdora.—Rosy crimson, yellow base, purple tip; collar yellow, tipped crimson.
Walton.—Garnet; yellow and garnet collar.
Warnick.—Garnet shaded maroon; garnet and yellow collar.
Wilford.—Soft carmine red, tipped purple; collar yellow, tipped red.
Winona.—Vivid crimson, tipped purple; crimson collar.



NEW ANEMONE OR PIN-CUSHION DAHLIAS. A UNIQUELY
 DISTINCTIVE NEW TYPE THAT HAS GREAT
 POSSIBILITIES FOR DECORATIVE
 PURPOSES

