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AMERICAN PEONY SOCIETY

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Membership in the Society is open to both professional and amateur growers. Nomination is not necessary for those desiring admission, but a list of applicants for membership is presented to the Society at its annual meeting and the names are there voted upon.

Those who make application for membership at any time receive the current publications of the Society as they are issued.

The annual dues are $3.00 which includes the bulletins. *All checks covering membership dues should be made to The American Peony Society and sent to the Secretary with application for membership.* Dues in future are to run from January 1st to January 1st of the following year.

Back BULLETINS of the Society will be charged for at the rate of 25 cents per copy and 50 cents for the Symposium Number (No. 14). To non-members these prices are doubled.

No BULLETINS available prior to No. 13.

AMERICAN
Peony Society
Bulletin

DECEMBER, 1948

Tree Peony Tour

I had the privilege to visit the Swarthmore Foundation great Tree Peony exhibition on May 11th where the hundreds of ethereal blooms were at the height of the blooming season. This was my third annual trip. While Messrs. John C. Wister and Harry Wood were busy with several guests, I enjoyed the freedom of the grounds and had an opportunity to study the various plants at great leisure. Despite the poor growing season, some of the Tree Peonies were at their best. Before I departed from the grounds I met some of the visitors, among them Messrs. Oberlin and Lambert of the Oberlin Peony Gardens. Both of these gentlemen seemed to be enjoying the tremendous spectacle of hundreds of these breath taking flowers.

As usual I list below a number of the outstanding Tree Peonies I saw in bloom. Several of the scarlets and maroons had not opened and so it is not possible to report on too many of those colors.

Kigyoku—A medium sized, semi-double white, with green carpels and red stigmas with a nice arrangement of stamens and anthers.

Sumi Nagashi—A very large maroon, with a slight purplish hue—petals attractive because of its satiny finish.

Sumi-no-ichi—Blooms were beginning to open; the buds were immense; lovely maroon.

Konron-koku—Symmetrical plant of medium height; maroon with practically no trace of purple; semi-double.

Kumona-nishiki—A low plant, dark red single—have seen this variety in better condition.

Kansenden—Another good white; nine inch flower: crinkly petals, pistils green and pink; stamens white, anthers yellow; an excellent example of a fine white Tree Peony.

Haku-ow—A medium sized plant with good stems and foliage, medium sized blooms with inner streaks of cerise where guard petals meet the center of the bloom.

Ima-chowkow—An immense white on a very wide plant, the quintessence of loveliness, pistil, stamens and anthers in complete harmony of white and yellow.

Hiryo—An excellent semi-double in cherry red paling toward center, good stems, blooms of average size.

Tsueure-nishiki—Another semi-double of cherry red of crinkly petals, lighter at edges; blooms of fair size.

Kokirin—A large single light rose red fading to white towards center on good plant.

Nishiki No Shitone—A gorgeous brilliant scarlet of good size, red stamens, yellow anthers, red stigmas. A very attractive Tree Peony; beautiful every year.

Nisshoko—Not an appealing variety; dull red color, small flower; very poor this year.

Kumona Nishiki—Resembles *Nishiki-no-shitone* in every respect, petals possibly a little heavier.

Tsuki Seki—An enormous eleven inch fully double exquisite white—big, heavy stems on a wide plant, bloom of excellent formation; one of the better whites.

Fuji-oe-ryo—Medium sized flower of good shape, an interesting white; worthy addition to all collections.

Okina-jishi—A fairly good white of large size, carpels light yellow, salmon stigmas, white stamens and yellow stigmas; a low plant.

Joten-ko—An interesting variety of cherry red, medium sized single; a good plant.

Renkaku—A tremendous plant, tall and wide, semi-double white, all yellow center, this is a famous variety.

Haku-raku-ten—A loose petalled, semi-double immense white, cup shaped on excellent stems, medium sized plant.

Kai-haku Hatsu—Have labelled this extraordinary; a full double, eight inch symmetrical white; every petal curled and twisted slightly, creating a gorgeous effect, all yellow center.

Miyo-no-hikare—A very large rose red, white at edges of petals, semi-double on excellent plant.

Iwato-kagami—A medium sized bloom, semi-double to full double, quite floriferous; a good variety.

Miyako-no-nishiki—A flat bloom, cherry red, semi double large loose petalled; the plant, because of its many blooms, made a glorious spectacle.

Dai-Kagura—A rose pink; pale blush at edges, almost full double, exquisite variety, almost faultless.

Miya-Kagure—A rose pink, had an off year, plant low, poor blooms.

Daihucho—A ten inch bloom, fine tall plant, best of all cherry pink, carpels cream, stigmas maroon, cherry stamens, yellow anthers. I recommend this highly.

Aya-nishiki—A colorful light pink semi-double on a tall plant, does not fade, excellent variety.

Akashi-jishi—A flat red rose semi-double on low plant; excellent variety.

Haku-zuru—An impressive Tree Peony; medium sized plant contained 24 eight inch, semi-double, crinkly white blooms, good variety.

Gabisan—Another good white; several 10 inch semi-double blooms with five rows of petals, a colorful center of contrasting colors; blooms of excellent substance.

Tsuya-Sugata—A flat light pink, cerise pistils, red and yellow stamens and anthers, an extremely interesting plant, single to semi-double.

Hakuka-shiri—This plant came up blind. I mention this because Tree Peonies will do this occasionally and this is the first Tree Peony I saw in three years to do this.

Hana-kurabe—A great variety, full double pink, one of the really great Tree Peonies. This is the same as *Hana-kisoi;* immense 10 to 11 inch blooms.

Iro-no-seki—A pure medium pink, free blooming plant, 35 blooms on one immense plant, exquisite semi-double, colorful center.

Mme. Pierre Dessert—A semi-double deep pink, cerise center, extremely colorful flower.

Terete Nishiki—Exquisite eight inch, semi-double flower of purest pink, pistils a combination of salmon and cerise, white and yellow stamens and anthers; tall strong stems, perhaps as beautiful a tree peony as any; very rare.

Dokusbin-den—A medium sized white to pale blush, extremely colorful flower, light center, stems good on medium plant.

Hade-sugata—A seven inch light pink semi-double; good stems, clean plant.

Tama-sudare—The plant I examined was easily the best white of all—gigantic exquisite blooms of purest white; it compares favorably with *Gessekai,* but not quite so heavily petalled. An immense beauty.

Akatsuri-no-yuki—Plant six feet in circumference, cup shaped, curled petals. A good light pink semi-double.

Auguste Dessert—A free flowering magenta eight inch bloom, beautiful center, on good plant.

Beaute de Tokio—A purplish red semi-double, holding its color in the sun, tall plant with foliage of two shades of green.

Rimpo—This is the famous beautiful royal purple, semi-double with yellow center; this color combination makes this variety a gorgeous, glorious creation; a beautiful tree peony.

Mr. Wister, under whose guiding genius this most wonderful display of Tree Peonies has been made possible, escorted me later on a tour of the grounds where many hundreds of young grafts were thriving. Later I saw at least two hundred fine tree peony seedlings in full bloom, several of which appeared very promising. I saw, too, many of the herbaceous hybrids, some of which were in full bloom. One proved especially interesting because this buff bloom was a combination of the following four species—*Mlokosowietchi, officinalis, albiflora* and *macrophylla.*

On June 2nd I visited the home of William Gratwick of Linwood, N. Y. about 30 miles from Rochester, N. Y. There I saw several thousand young grafted Tree Peony plants growing nicely in well kept fields. Both Mr. and Mrs. Gratwick are lovely hosts. Mr. Gratwick now ranks with our best Tree Peony hybridists and growers. He is a keen student, and has proven his ability to graft properly. He uses young herbaceous understock for grafting of Japanese varieties, and is planning to use young Japanese Tree Peony seedlings as understock for the grafting of Lutea hybrids. Mr. Gratwick originally imported 150 varieties from Japan but has reduced these to about 40 to 50 of the best. He has several promising seedlings which I saw in bloom. I list them below:

Black Pirate—Professor A. P. Saunders' fine Lutea hybrid introduction, a five inch beautiful dark maroon single, on a young plant.

Roman Gold—Another Saunders' Lutea hybrid Tree Peony, a beautiful symmetrical plant of purest yellow, about four inches, semi-double to single.

Corsair—A four inch Saunders Lutea hybrid; a flat rosette formal type of darkest maroon, almost black; a genuine beauty.

Kinkaden—A large semi-double scarlet on medium size plant. good stems, nice foliage.

Okina Jishi—An eleven inch white semi-double of rare beauty on good plant.

Yae Zakura—A beautiful large light pink or blush, semi-double on a fine plant, irregular petals.

Tama Fuyo—That well known pink of immense size, almost full double on good plant; lotus like balanced beauty.

Kagura-jishi—An enormous watermelon pink fading to white, semi-double, crinkled petals; a famous variety.

Shintenchi—A gorgeous light pink semi-double of rare beauty; petals crinkled holding color well, good stems. One of my favorite varieties.

Kukkoshi—A semi double scarlet on a young plant. Tall stiff stems, bloom of fine scarlet. A beauty.

Momoyama—A great Japanese favorite, semidouble pale pink. Seven inch bloom of rare beauty.

Kokamon—A semi-double purple red, almost similar to *Rimpo* in appearance of flower and plant. Huge—gorgeous.

Hino Maru—A brilliant, immense scarlet pink, semi-double with beautiful center. good plant with stiff stems.

Dantemnon—A blush pink semi-double, large size on medium sized plant. A good pink.

Yaso Okina—A pure white, rather flat, semi-double of immense size. One bloom measured over twelve inches. It was the best bloom I saw all year. This is the parent plant of the Lutea Hybrid, *Alice Harding.*

Horakumon—Another good purple, semi-double of cup shaped blooms. Holds its color in the sun.

Anyo-no-hikari—An exquisite semi-double maroon. Bloom of fine substance. Not too large.

Some of Mr. Gratwick's seedlings were really worthwhile—the outstanding ones were a watermelon pink of immense size almose fully double, a full double, immense purple, ten inch bloom and a lavender variegated semi-double of unusual color.

On June 25th on my return from the International Peony Show, I stopped at the beautiful home of Mr. James Keagey of Dundas, Ontario who has a small but good collection of tree peonies. They were past the blooming season but all of the plants were immense specimens, well grown, especially a gorgous plant of *Gessekai,* the best I have ever seen. He is an enthusiast of the highest type and almost worships his plants. He has introduced several exquisite varieties of herbaceous peonies, especially one fine Japanese variety called *Rose Bowl* which has a wax like texture of petals. This wax-like appearance presents possibilities of further development and may open a new type of petal structure. I should like some of our experts to explore these possibilities. The outstanding introduction of all, however, is Mr. Keagey's seedling now named "*White Bomber.*" It is an exquisite pure white bomb type with immense bloom. *White Bomber* is truly the white *Mons. Jules Elie*, and I predict a great future for it both for exhibitions and commerce. Congratulations, Jim Keagey.

Tree Peony interest has been on the increase as is evidenced by the many inquiries I receive for sources of supply. If I can be of help to any reader, please feel free to call on me.

Louis Smirnow

Beautiful Paeony Species

By *COL. F. C. STERN, O.B.E., M.C., F.L.S., V.M.H.,*

Most of the paeony species have beautiful flowers and are useful garden plants. They are nearly all easy to grow and, when once established, they take very little looking after, which is a consideration in these days. All the species grow best in good loam, with or without lime. Lime is not necessary for them, though the species are usually found on limestone formations. When paeonies are first planted, it is as well to double dig the ground and put some old manure well down underneath. The plants, once established, seldom want moving and will grow into fine bushes covered with flowers in the early summer.

Most of the species are woodland plants, and enjoy the half-shade of woodland conditions. In such situations the flowers last much longer than in full sun and, in my opinion, look much more attractive. I shall never forget walking through a wood near Azrou, in the Middle Atlas Mountains in Morocco, in the first week in April, and seeing dozens of plants of *P. coriacea* in full flower. The pink flowers and deep green leaves in the half-shade of the Atlantic cedars were a delightful sight. This Moroccan paeony used to be considered half-hardy, but plants raised from seed found in the wood near Azrou passed through last winter without hurt, planted in half-shade in the woodland.

The Great Red Paeony

P. peregrina, "the great red paeony of the Balkans," as writers of the Middle Ages called it, is a grand plant for the woodland. The deep red cup-shaped flowers, on stems nearly 3 feet high, are charming, especially in the evening light. This species is often offered in nurserymen's catalogues under the name of "Fire King." There is another form of this paeony, sometimes known as *P. lobata,* and sometimes as Sunbeam, which has a salmon-pink cup-shaped flower. This form, found in the Smyrna area of Asia Minor is showy and well worth growing in the garden.

The finest white-flowered species is *P. emodi* from Kashmir and Chitral. It grows some 3 feet high, making a bush about 6 feet in diameter, and is perfectly hardy in the south of England. The flowers are pure white, about 5 inches in diameter. It has the unique character of only having one carpel, or rarely two carpels to a flower, so it can be easily recognised. The carpel is covered with hairs, but there is another form with a smooth carpel devoid of hairs, named *P. emodi* var. *glabrata.* There is no other difference between these two forms which are found growing together in a wild state, but some people prefer the latter form as the flower appears to be more symmetrical than the flower of the type. It is curious how so many of the paeony species have two forms, one with hairy carpels and another form with smooth carpels, and yet no plants have been found with carpels in an intermediate state. The reason for this has never, as far as I know, been explained.

Some of the species have many carpels, and the species with the most carpels is *P. Cambessedessii,* from the Balearic Islands. This is one of the most charming of all the wild paeonies. It is the earliest to flower, in April, and thus sometimes get caught by a late frost. In the south of England, if it is planted near a wall facing south, it will grow and flower well. The flowers are a delicate shade of deep pink, the leaves are deep green and purple underneath, with red petioles and stem. It is a grand plant to grow in a pot in a cold greenhouse.

A Change of Name

The herbaceous paeony species usually found in gardens are those from Europe and Asia Minor. *P. mascula,* which used to be called *P. corallina* (I hear

my gardening friends say, "Oh dear, they have changed a name again!" I am the "they" this time, but Miller did actually name it *P. mascula* in 1768, before Retzius named it *P. corallina* in 1783!), is often seen in gardens; it has rose-red flowers. Another common species in gardens is *P. arietina*, with a rather darker red flower. Both these plants grow very easily and often seed themselves. *P. mascula* is found growing apparently wild, on Steep Holme Island in the Bristol Channel, and in Sicily, Armenia and Syria, although its true home is the centre of France, and south-east Germany. The distribution was very puzzling until it was found that each of these places there had been a monastery, and also that the monks in the Middle Ages were known to have grown this paeony for medicinal purposes. Many of the monks came from the centre of France, where this paeony grows wild.

There are several other European paeonies which are very attractive, but do not increase so fast, nor grow so easily. *P. Russi* and its two varieties from Corsica and Sardinia have rose-red flowers, and *P. Broteri* from southern Spain and Portugal has deeper rose-red flowers. They are both very charming plants, and look best, and do best, in half-shade. One of the most distinctive of all the species is *P. tenuifolia;* this species has very thin dissected foliage which gives it a fern-like appearance quite unlike the leaves of any other species. The flower is usually deep crimson. It never grows very large, and is especially suitable for a shady place in the rock garden. It is found wild in eastern Europe and in the Caucasus.

Yellow Flowered Species

In the Caucasus there are found the only yellow herbaceous paeonies. Two species with yellow or yellowish flowers are found in this area and nowhere else, *P. Mlokosewitschii* and *P. Wittmanniana.* The former, with the Russian name, has the yellower flowers of the two, and is a first-rate garden plant. The flowers of *P. Wittmanniana* are more creamy-yellow and, when a number of these plants are in flower together, they make a most attractive display. There are three forms of *P. Wittmanniana,* one with hairy carpels and one with smooth carpels, and one form with very large leaves; there is no difference from a garden point of view between the first two forms, but the third form with the large leaves known as var. *macrophylla* is more suited to a botanical collection. All these yellow-flowered paeonies flower in early May and are perfectly hardy. *P. Wittmanniana* is said to grow well in the gardens at Leningrad. These plants are still rare in gardens and seem to be expensive to buy; they should not be, as they seed freely and grow easily from seed.

There is another European paeony from Crete, *P. Clusii,* which for some reason is not an easy plant to grow, but is so charming that every effort should be made to grow it. It does not grow much more than a foot high; it has delicate narrow foliage; the flowers are cup-shaped and white, with petals pink at the base, and a mass of golden stamens. It sometimes grows well, and at other times does not, so it is difficult to say how it should be treated in the garden. A great old gardener once advised me to try always to get three plants of a new or difficult plant, to plant one where one thought it would grow, a second where one's friends thought it would grow, and the third where no one thought it would grow! That treatment often succeeds.

Two Allied Paeonies

On the border of Europe and Asia in Russia, *P. anomala,* a species with fine red flowers, covers a large area; again, there are two forms of this species with the hairy and smooth carpels. The red flowers overtop the leaves, which are thin and much dissected. It is a beautiful species, growing some 2 feet high. It is not very far removed from *P. Veitchii* from western China. *P. Veitchii* differs from *P. anomala* mainly by having several flowers on a stem, instead of

one, as in *P. anomala.* This Chinese species is very easy to grow and seeds itself about the garden. The flowers are different shades of magenta-pink, some light and some dark. It is useful to grow with lilies, as it does not grow too strongly, and the leaves shade and protect the young shoots of the lilies. There is a dwarf variety from Kansu, *P. Veitchii* var. *Woodwardii,* which is probably a geographical form; the variety is more attractive than the typical plant; it grows only a foot high and has rose-pink flowers . It comes true from seed as long as the parent plant is kept well away from *P. Veitchii* with which it hybridises very easily. There is also a white form of the variety *Woodwardii.*

Two white flowered paeonies from eastern Asia, *P. obovata* and the better known *P. obovata* var. *Willmottiae,* are both good garden plants; they do not increase very fast but are easily raised from seed.

Only the herbaceous wild species have been described so far, but the wild tree paeonies are most useful garden plants. They are attractive in flower and in leaf, and are perfectly hardy. They all come from China and Tibet.

The Tree Section

The finest of them all is *P. suffruticosa,* which grows into a bush some 6 feet through. The flowers, which come out in May, are magnificent, 8 or 9 inches across, white with a magenta splash at the base of each petal. It grows in sun or shade. There is no doubt about its hardiness as it grows on the top of the rock garden in the Botanical Gardens, at Stockholm, unprotected. From this species all the fine garden forms of the so-called *P. Moutan* were created by the Chinese and Japanese gardeners.

P. Delavayi, another tree paeony, has deep red flowers and will grow anywhere in any soil in sun or shade. It grows up to about 5 feet and is useful to put in the shade under trees. The yellow-flowered Chinese tree paeony, *P. lutea,* has been known for many years, but is a poor garden plant, as the flowers are hidden under the leaves. Kingdom Ward, however, reported in 1924, a taller growing *P. lutea* with large flowers, from Tibet. Messrs. Ludlow and Sherriff found this plant again in Tibet in 1936, and sent home seed. Plants from this seed have now grown up and flowered. They are magnificent, growing some 6 feet high with large flowers of a real butter-yellow, showing well above the foliage. This Tibetan form is one of the finest flowering shrubs in existence, easy to grow and hardy, and should be in every garden.

P. Potanini is a smaller growing species, some 2 to 3 feet high; there are two forms, one with maroon-coloured flowers and one with white flowers. It has several flowers to a stem, with long leaves which are narrow and dissected. It increases fast by stolons, and soon makes a large bush. It is very useful to cover the ground in the woodland and looks delightful when in flower in May. There is also a yellow-flowered species, *P. trollioides,* which is nearly related to the last, with the same habit of growth. The flowers remind one of a small trollius, as the name implies.

From Gardening Illustrated, Jan. 1948.

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Growing Good Peony Seed

By W. T. Coe

For several years I had a fine clump of Sass's *Imperial Red* planted in my garden, among a number of other clumps which bear seed. Two years ago I dug the clump of *Imperial Red.* Since then I get no peony seed. I am convinced that *Imperial Red* was the Daddy of every seedling peony I have. He is very full of pollen and of course a beautiful and unusual color. I have no other male in my garden.

Notes from Southern Wisconsin

For about fifteen years the beautiful peony has intrigued the writer—an amateur grower. My first interest in this field was when on a visit to Minnesota we happened to pass through Rochester the day of the opening of that glorious show. That was in 1940. Anyone who attended that wonderful exhibit must have received a genuine uplift after seeing that vast expanse of rare beauty. For myself the desire to know the peony better gave the impetus to list some of the flowers which appealed to my wife and myself—a sort of a preliminary buyers list. While we did not know anything about ratings or prices many of the names were in the top-notch class, as I learned from reading the peony literature and seeing later shows, and private gardens. Two blooms which were double-checked were *Dorothy Blake* and *Ama-no-sode* while some of the other desirables were *Mrs. Mac, Flaming Youth, Blanche King, Mrs. Livingston Farrand* (then priced at $40.00 but not purchased) *Golden Glow, Titania, Charm, Tamate Boku, Tokio, Flanders Fields, A. B. Franklin, Milton Hill, Primevere, Krinkled White, Victoire de la Marne, L'Etincelante,* and *June Day.*

In subsequent years we visited the National Shows at Milwaukee and Rockford as part of our vacation and they gave us considerable "soul satisfaction." One who grows the flower is always searching for his friends. My observation of peony men is that they are all friends to people who are interested in the hobby.

Within the last few years we have seen the fine gardens of Mr. Sisson at Rosendale, Wisconsin, the home of *Marietta Sisson;* the backyard garden of the late Ben Haberman, of Jefferson, Wisconsin; Mission Gardens, Techny, Illinois—too early to see the peonies but W. F. Christman showed us the wonderful new iris there; Roy Gayle's fine collection of super-blooms at Rockford, Illinois; the Brand Peony show at Faribault, Minnesota, where *Alesia* and many others held us spellbound; Franklin Gardens in Minneapolis where *Ultima* was in full splendor, and Whitnall Park, Milwaukee where the fine plants are grown in landscape plantings. Whenever I get the peony urge I always drive to Beloit to see some of Mr. Huber's display or go to the Cash Peony Farm, a couple of miles from our home in Janesville, Wis.

One of the satisfactions of growing peonies is the opportunity of meeting and becoming better acquainted with some of the fine men in this line of work. All of the peony enthusiasts whom I have met have proved to be men of the highest type and always ready to be of service to a new peony fan. George Peyton and Mr. Brand are both fine gentlemen, while W. F. Christman and Roy G. Gayle are two of the most genial and friendly men that one could hope to meet. One day last June, when on a trip to Milwaukee, I called on our worthy president, Marvin Karrels and found him to be of the same high-calibre type as the others. He was picking a few blooms at his home for the Guelph show, to be put in cold storage until needed. But he stopped from his work to show me some of his fine plants and give much information as to the habits of some of the excellent outstanding peonies.

The Men's Garden Club of Rockford, Illinois held a show this year which was almost as fine as the National Show held there in 1946. Roy Gayle had a table of wonderful blooms of *William Howard Wigell* and *Lois B. Gayle,* besides numerous blooms of the standard high-rated varieties. My own personal selection of "must haves" included *Nimbus, Cornelia Shaylor, Some Ganoko, Akashagata, Nick Shaylor, A. M. Slocum* and *Henry Avery.* Most of these are old-timers but compared favorably with many of the newer types on display.

My own garden did not show as well as usual due to the drought in this area, but *Mrs. J. V. Edlund, Judge Snook, Sarah Bernhardt, Phoebe Cary, Primevere* and *Minnie Shaylor* were among the ones that came through regardless of adverse weather.

Roy Eller, *Janesville, Wis.*

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BOTANY FOR THE ORGANIC GARDENER

By DR. WILLIAM H. EYSTER

THE SOIL IN RELATION TO PLANTS

The soil is the natural environment of the roots of higher plants and of many non-green plants (bacteria, thread bacteria, and fungi) which live entirely within the soil. It effects the form, distribution, and activities of all plants so much that an elementary knowledge of the soil is essential for an understanding of the nutrition of plants. The soil is much more complex chemically, physically, and biologically than is the atmosphere in which the aerial parts of the higher plants grow.

Although soils vary a great deal in origin, in physical texture, in chemical composition, in depth, in fertility, and in many other respects, all soils consist of rock particles, humus, water, air, dissolved chemical compounds or solutes, and soil organisms. The soil is in reality a large physicochemical laboratory in which many reactions of vital importance to all forms of life are taking place. The chemical elements which are bound up in the bodies of dead plants and animals as well as all residues which are shed from living plants and animals are being constantly released by countless billions of organisms which live entirely within the soil. So also chemical elements which are bound up in inorganic compounds are being changed into water-soluble salts which thus become available to green plants. The soil is indeed a great storehouse of nutrient materials for all plants.

The soil serves higher plants in a number of distinct ways: (1) It provides an anchorage for the plant so that the aerial parts may be held in position most favorable for the carrying on of their special life processes. (2) It acts as a vast storehouse of water and nutrient materials which are essential to the life of the green plant. (3) It protects, during seasons unfavorable for growth, roots and underground stems which often contain vast stores of reserve plant foods to be utilized by plants for the resumption of growth when favorable growth conditions return. (4) It serves the abode of the countless billions of soil organisms.

Texture of the Soil. The soil is composed of weathered rock particles of various kinds, water containing a variety of dissolved substances, air, organic matter, and living organisms. Soils are classified and named according to the sizes and kinds of the rock particles which they contain as *gravel, sand, silt,* and *clay.* A soil having a large proportion of sand is called sandy soil, one having much clay is called a clay soil, while soils which contain both sand and clay are called *loams.* Soil particles vary in size from less than 0.0002 inch in clay to about 0.004 inch in diameter in gravel, and differ in shape and chemical composition according to the kind of rocks from which they originated. Because of their irregular shapes the soil particles are more or less loosely arranged so as to leave interspaces of different sizes which are occupied by air and soil water. Soil particles ordinarily cohere, due to the water films which surround them and cement materials, to form *soil crumbs* or *floccules.*

Water in the Soil. Water is of the most vital importance to all organisms, and its uses may be summarized briefly as follows: (1) Water is the solvent which makes possible the entrance of any substance into the plant body, as only substances dissolved in water can be absorbed. (2) Water serves as a medium of transportation of plant nutrients and plant foods through the plant body. (3) Water is the medium in which all life processes are carried on. (4) Water is a fundamental constituent of all living protoplasm. (5) Water is an essential raw material in the building up of carbon compounds by photosynthesis in green plants. (6) Water is necessary for maintaining the normal turgidity (internal pressure) of living cells. Cell turgidity plays an important part in maintaining the normal position of plant bodies, and is a necessary condition of the cell for carrying on its life processes. When the cells of a plant lose some of their turgidity the leaves and young parts of the stem droop and the plant is said to have wilted. (7) Water is the medium through which the microscopically small soil organisms move from place to place.

The most important natural source of soil water is that which precipitates out of the atmosphere and falls upon the surface of the soil in the form of rain, snow, and dew. The amount of water thus furnished which actually enters the soil depends upon such conditions as the nature of the soil, kinds and amounts of vegetation on the surface, the rate of precipitation, the slope, the organic matter in the soil, the existing water content of the soil, the physical condition of the soil, and the season of the year. The water cycle of a green plant includes vapor in the atmosphere, water of precipitation, soil solution, cell sap or a constituent of protoplasm, and then back into the air again as vapor. The water which enters the soil tends to occupy the spaces between the soil particles and to extend around the soil particles in the form of films. Under the influence of gravity, the water in the soil particle interspaces percolates downward, rapidly in gravely and sandy soils and more slowly in soils composed of smaller rock particles, until it reaches the level where the soil is saturated with water. This level is called the *water table.* The water table is approximately parallel to the surface of the soil, varies widely in depth below the surface from place to place, and is subject to much fluctuation.

The water which sinks to the water table is often beyond the reach of the roots of plants. Much of the water which enters the soil, however, will not sink to the water table but will remain in the upper layers of the soil as thin films around the soil particles and in the pores of humus. Fine soils have a greater water-holding capacity than coarse soils due to the greater total surface areas of the smaller particles of the fine soils. It is the water that is thus held in the upper soil that is available to plants and soil organisms. The presence of organic matter in the soil increases its water-holding capacity because the particles of organic matter not only are surrounded by the usual films but also admit water into their interiors.

The water films about adjacent soil particles coalesce to form a continuous film-system in the soil. If water is removed from any part of the soil by evaporation into the atmosphere or by absorption by plants, the water films around the soil particles become thinner. Immediately water will move from adjacent soil particles where the films are thicker so as to restore the equilibrium of the film-system. Thus, loss of water from the surface layers of the soil generally causes an upward movement of water from the deeper soil regions, and may extend to the water table and cause it to be lowered. The film-system in the soil draws water from the water table to the surface layers of the soil much like the wick of a kerosene lamp transmits oil from the lamp to the flame.

The rise of water in the soil is dependent upon capillarity. The intercommunicating air spaces of the soil act upon water as capillary tubes. Not

all of the water which is held in the soil can be used by plants. As water is removed from the soil, the films around the soil particles become thinner and thinner, and finally the attraction between the extremely fine water film and soil particle is so great that plants cannot get the last traces of water.

Available Minerals in the Soil. The water in the soil is commonly called the *soil solution* because it has dissolved in it many chemical compounds. Only substances which are dissolved in water can usually be absorbed by plants and are thus available to them as nutrient materials. The dissolving power of soil water is increased by the presence in it of carbon dioxide which is given off in the respiration of plant roots and of the innumerable plants and animals which live entirely within the soil. The nutrient materials dissolved in the soil solution, some more readily than others, may enter the plant body through the root or other part of the plant body that is in contact with the soil. It has been found that approximately thirty-four chemical elements are of greater or lesser importance in the nutrition of plants. The elements which are used in larger amounts and thus often called the major elements include carbon (C) hydrogen (H), oxygen (O), phosphorous (P), potassium (K), nitrogen (N), sulphur (S), calcium (Ca), iron (Fe), and magnesium (Mg). These elements can easily be remembered by writing the symbols in the form of a cafe advertisement, as follows: C. HOPKNS Cafe, Mg. These elements are necessary for the growth and reproduction of all plants and are therefore usually referred to as the *essential elements* in plant nutrition.

In addition to the essential elements certain plants require certain other chemical elements in usually exceedingly small amounts for their normal development. Such elements are known as the *minor elements* or *trace elements.* The more important and best known trace elements are manganese, boron, copper, zinc, molybdenum, vanadium, tin, and iodine. Other elements are known to be necessary in minute amounts in various plants.

Importance of the major elements in plant nutrition. The general part played by each of the major elements can be summarized as follows:

Nitrogen:

1. Stimulates the vegetative growth and a greener color in higher plants.
2. Increases protein in grains.
3. Increases hardness in grains.
4. Increases the period of vegetative growth.
5. Tends to increase fruitfulness.
6. A deficiency causes stunted growth and yellow leaves.
7. Excess delays flowering, causes abnormal growth in length and lodging in grains, increases susceptibility to disease, and reduces the quality of the fruit.

Phosphorous:

1. Stimulates root growth.
2. Increases resistance to winterkill and diseases.
3. Hastens maturity.
4. Increases seed production.
5. Reduces lodging in grains.
6. Increases palatibility of forage to stock.
7. A deficiency causes purplish colored leaves, stunted growth, and a poor yield of seeds which tend to be sterile.

Potassium:

1. Is essential for the division of cells in growth.
2. Acts as a stabilizer of excess calcium or nitrogen.
3. Aids in the utilization of nitrogen.
4. Decreases the water requirements of plants.

5. Increases the resistance of plants to diseases.
6. Stimulates the production of starches, sugars, and oils.
7. Reduces winterkill of plants.
8. Improves the keeping quality of fruits.
9. Reduces the boron requirements.
10. Promotes color in fruits.
11. A deficiency causes firing of leaves, poor set of seeds including many that are poorly developed and sterile.

Calcium:

1. Necessary for root development.
2. Corrects acidity in the soil and within the plant.
3. Encourages bacterial activity.
4. Improves the tilth of the soil.
5. Aids in the utilization of potash, boron, and magnesium.
6. Favors the development of legume nodules.
7. Aids in the translocation of foods in plants.
8. Favors the differentiation of plant tissues and makes them stocky.
9. A deficiency causes yellow top, terminal buds to die, cracked stems, and poor root systems.
10. An excess makes unavailable in the soil many other essential elements.

Magnesium:

1. An essential part of chlorophyll.
2. Essential for the utilization of nitrogen, phosphorous, and sulphur.
3. Aids in the formation of proteins.
4. Helps to correct the acidity in soils and in plants.
5. A deficiency causes the lower leaves to turn yellow between the veins, beginning at the leaf edges. The leaf then changes to orange and later brown as it dies.

Sulphur:

1. In the form of sulphates essential to all plants.
2. Essential in the formation of chlorophyll.
3. Increases the formation of proteins, especially in legumes.
4. Deficiency causes yellowing of upper leaves similar to that caused by a deficiency of nitrogen.

Iron:

1. Acts as a catalyst in the formation of chlorophyll.
2. Influences the color of flowers in some plants.
3. Intimately related to the formation of carbohydrates.
4. A deficiency similar to that of nitrogen and sulphur, and is common in alkali soils.

Carbon, hydrogen and *oxygen* are available to the plant in such compounds as carbon dioxide in the air, water in the soil, and less commonly as other compounds. These elements are built up into simple sugars and starches which are fundamental to the synthesis of all other plant parts.

Minor Elements:

1. The minor elements are essential in much smaller amounts than the major elements.
2. Some minor elements are important in the nutrition in some plants, others in other plants.
3. Minor elements often work in pairs, as boron and zinc for rosette in fruit trees.
4. Some increase the plant's resistance to diseases.
5. Some appear to function as enzymes or co-enzymes.

6. Some have a stimulating effect on the bacterial activity in the soil.
7. Most are extremely toxic to plants if used in excess.
8. Some make up for the deficiency of other essential elements.

Definition of Terms

Carbohydrate—an organic compound made up of carbon, hydrogen, and oxygen with the hydrogen in the ration of 2:1, as $C^6O^{12}O^6$.

Catalyst—a substance which starts or assists the chemical action between two or more other substances without itself combining with either of them or undergoing any permanent change.

Chlorophyll—the green pigment in the plant which enables it to synthetize carbohydrates from water and carbon dioxide using light as a source of energy.

Co-enzyme—is an organic fraction of an enzyme which passes through an animal membrane.

Enzyme—is an organic catalyst produced by a living organism.

Legume nodules—tumors on the roots of leguminous plants caused by bacteria which can take nitrogen from the air and deliver it to the plant.

Microscopically small—so small that it can be seen only with the aid of a microscope.

Nutrient materials—chemical compounds in the soil which are used as raw materials by plants. These materials are built up into complex organic substances by plants.

Photosynthesis—is the process, unique to green plants, which consists in the building up of carbohydrates from water and carbon dioxide using light as a source of energy. It is the most fundamental chemical process on the planet.

Physico-chemical laboratory—is a laboratory in which physical and chemical changes are involved.

Protoplasm—is the living matter of which all plants and animals are composed.

Salts—are compounds formed by the replacement of the hydrogen of an acid by a base. When sodium (Na) replaces hydrogen (H) in hydrochloric acid (HCl), ordinary table salt (NaCl) is formed.

Translocation of foods means the movement of foods from one part of the plant body to another.

Toxic means poisonous to organisms.

Turgidity refers to the internal pressure of a living cell. Living cells in plants are inflated with cell sap much as a basketball is inflated with air.

Water table refers to the level in the soil below which the soil is saturated with water.

Editor's Note: The above informative article is the 6th of a series of splendid botanical studies by Dr. Eyster, appearing in Organic Gardening from month to month.

* * *

A Communication from Wisconsin

I just can't permit our good friend F. O. Hubert who has been contributing as faithfully to Comments from Wisconsin to go on through life wondering what deer will do to a peony plant!

To the best of my knowledge they ignore them completely. My planting in Price County (some 80 miles below Superior, Wisconsin) is left strictly alone by the White Tail deer although they nibble at everything else. We do have

up there one destructive little fellow that delights in cuttting off the stalks—after they have bloomed—and dropping them beside the remainder of the plant. I have blamed the woodchuck, but perhaps I could stand correction and it may be proved that the cottontail rabbit or snowshoe is responsible.

Now may I steal a wee bit of Mr. Hubert's thunder and say that here in Wisconsin after a rain this spring that should have been sufficient for all plants—and almost too much for peonies—that within ten days the ground dried out so rapidly, so unexpectedly and so thoroughly that many peonies in this locality failed to bloom. I was almost too late watering mine, and consequently some buds dried up.

On May 15th *Laciniata* opened her first bloom and the balance of the bush was in bloom by May 19th.

Officinalis single red on May 23rd.

Georgiana Shaylor (the sunny side of the house) jumped the gun and opened a bud on Decoration day. First year plant.

Marietta Sisson on June 1st. *Carolyne Mae Nelson* June 1st. Then in the afternoon *Mons. Jules Elie* popped open, followed by *Edulis Superba. Mrs. Edward Harding* had opened that morning. *Akashigata* opened June 3rd, also *Toro-no-maki* and a bud from a new bush of *Mrs. F. D. Roosevelt.* From there I'll leave this report up to Mr. Hubert, for I was dragged away on a "vacation" and missed one week of bloom which included my midseason bloomers! Never again. I have issued a proclamation on that score. To wait all year to see those beloved plants bloom and then not see them until after the heavy rain that came June 11th had beat them to the ground. G-r-r-r-r.

My tree peonies didn't bloom this year. Something has to be moved this fall so that they can have a bit more breathing space . . . more elbow room, as one member wrote in the Bulletin.

Very truly
Mrs. Ruth Berkshire

* * *

Result of Membership Drive for 1948

We did not get the response that we had hoped for but nevertheless, the increase is very gratifying and it is hoped that each member will continue to secure new members whenever the opportunity presents itself. We have made no record of our own personal efforts as we did not feel we were entitled to compete, having an unfair advantage. However this can easily be determined by subtracting the total of the following list of new members from the total added during the year. The extra effort put forth by our members is greatly appreciated by the officers and directors of the society. In many cases the securing of a new member requires no more effort than to extend an invitation to join in the work and after a year's membership they usually remain members for a number of years. Many thanks for your efforts and they are surely appreciated and valued very much.

The list follows:

Commercial Growers

Brand Peony Farms, Faribault, Minn.	42
William Brown, Elora, Ontario, Canada	20
Allen J. Wild, Gilbert H. Wild & Son, Sarcoxie, Mo.	5
William H. Krekler, Akron, Ohio	5
River Drive Peony Gardens, River Grove, Ill.	2
Frank E. Moots, Newton, Kansas	2
J. W. Bernstein, Lincoln, Neb.	1
Dr. J. F. Brander, Edmonton, Alberta, Canada	1
Myron D. Bigger, Topeka, Kansas	1

Fair Chance Farm, Beloit, Kansas	1
Ray Hallen, Northbrook, Ill.	1
Joe Warner, Topeka, Kas.	1

Amateur Growers

Marvin C. Karrels, Milwaukee, Wis.	22
Louis Smirnow, Great Neck, L.I., N.Y.	17
Neal R. van Loon, Newton, N. J.	17
J. E. Carter, Guelph, Ontario, Canada	13
Charles Kleffman, Hibbing, Minn.	10
W. A. Williams, Jr., Dodge City, Kas.	7
R. Hallett Shumway & Son, Rockford, Ill.	5
Roy Gayle, Rockford, Ill.	4
Mrs. Frances Kannowski, Grand Forks, N. D.	3
C. M. Clarke, Teepee Creek, Alberta, Canada	3
L. W. Lindgren, St. Paul, Minn.	2
Bert Anthes, Fort Atkinson, Wis.	1
Mrs. J. B. Campbell	1
Mrs. F. L. Harbour, San Jose, Cal.	1
Mrs. Preston Hinkson, Cairo, Neb.	1
Mrs. Ruth Berkshire, Orfordsville, Wis.	1
Howard M. Hill, Lafontaine, Kas.	1
Everett E. Lilly, Decatur, Ill.	1
Henry F. Lake, Jr., Dennison, Colo. (Deceased)	1
The Leighton's, Edmonds, Wash.	1
G. H. Murray, Monrovia, Cal.	1
Sam Wissing, Lombard, Ill.	1
H. E. Wigell, Rockford, Ill.	1
Clinton Van Pelt, Sellersburg, Ind.	1
Total	198

Great credit is due the Membership Committee in their efforts to increase the membership. Particular credit is due to Mr. Roy G. Gayle of Rockford, Ill., Marvin C. Karrels of Milwaukee, Wis., Charles Kleffman of Hibbing, Minn., Neal R. van Looon of Newton, N. J., Wm. Brown, of Elora, Ontario, Canada. Louis Smirnow, Great Neck, N. Y., J. E. Carter, Guelph, Ontario, Canada, and others for their untiring efforts in getting this contest under way. Several of these parties donated a considerable amount of fine peony roots as prizes, in addition to the list of awards printed in Bulletin No. 108.

Let each one resolve to obtain at least one new member during the year 1949. This is but little to ask and we sincerely hope that every member who has been with the Society at least a year will feel that they are justified in asking any peony lover to join with us in our work.

As previously stated, those having the highest number of new members to their credit during this contest, have the privilege of making their selection from varieties offered in Bulletin No. 108. It is, of course, too late in the season to send these awards at this time but they will still be available at proper planting time next year when the awards can finally be made. In the meantime, the leaders in the Amateur list can send in their preference, those having the highest number to their credit are entitled to first choice of the awards.

A suitable plaque will be prepared for the winner in the Commercial class.

Result of Essay Contest

The Essay Contest has brought out several fine articles for the bulletin but we were somewhat disappointed that more contestants did not send in articles.

There were four classes as follows:

(1) A—Culture of the Peony, or
B—Handling and Displaying Peony Blooms.
(2) A—Personal Peony Experiences, or
B—Reports on Visits to Shows or Gardens.
(3) A—Tree Peony Lore, or
B—Pests and Diseases.
(4) a Peony Verse, or articles on
B—How to Appraise and Judge New Peonies, or
C—Personal Choice—any subject not here suggested.

Class No. 1. 1st. W. A. Alexander, Bowling Green, Ohio.
2nd. W. A. Alexander, Bowling Green, Ohio.

Class No. 2. 1st. F. P. Tikalsky, La Grange, Ill.
2nd. Ruth Berkshire, Orfordsville, Wis.
3rd. Bess S. Harbour, San Jose, Calif.

Class No. 3. No entries.

Class No. 4. 1st. R. F. Koby, Superior, Wis.
2nd. Roy G. Gayle, Rockford, Ill.
3rd. C. H. Kleffman, Hibbing, Minn.

Grand Winner. W. A. Alexander, Bowling Green, Ohio.

Honorable Mention. Harold W. White, Glenview, Ill.
Mrs. John A. Thorp, Winfield, Kas.
Mrs. J. V. Rodimer, Newton, N. J.

Editor's Note: All essays will appear in forthcoming bulletins during the year 1949.

Judges in the Essay Contest were as follows:

Prof. James S. Webb, Institute of Technology, University of Minn., Minneapolis, Minn.
Dr. J. F. Styer, Concordville, Pa.
Rev. Neal R. van Looon, Newton, N. J.
Marvin C. Karrels, President, A.P.S., Milwaukee, Wis.
W .F. Christman, Secretary, A.P.S., Northbrook, Ill.

* * *

New York Peony & Iris Show

Under the auspices of the Horticultural Society of New York, a combined Peony and Iris show was held on June 8th and 9th in the rooms of the Society at 598 Madison Avenue.

Mr. James G. Esson of the Gardeners Chronicle and I undertook to supervise and arrange the entire show. Our efforts met with discouragement from the start because one of our larger eastern exhibitors wrote that he could not make any entries. Nevertheless, the stalwarts of the Society, such as Frank E. Moots, Roy Gayle, Myron Bigger, Art Murawska and Ernest I. Stahley came through with exceptionally fine entries. Reverend van Loon came along the last minute. These entries, plus the Tree Peonies and Hybrid Herbaceous exhibits of Professor Saunders and William T. Gratwick and Cottage Gardens made our show successful in every respect.

We were fortunate in obtaining a special entry of seedlings by Mr. H. W. Hodgson of N. Plainfield, N. J. These blooms were past their season, but was an indication of the splendid work being done by Mr. Hodgson. We hope that next season his blooms will be in better condition. Mr. Hodgson worked with us for over a day in arranging the show and many thanks are due him.

The ladies assigned by the Society to assist us rendered yeoman service; their efforts are appreciated.

The guiding hand of George W. Peyton was evidenced throughout the entire show. Without his efforts we could not possibly have succeeded and all of us here are grateful to him.

The outstanding exhibit of the entire show was a display of herbaceous hybrids by Professor Saunders. With their magnificent colors, these hybrids were an outstanding attraction.

We were particularly pleased to obtain a complimentary entry of herbaceous and hybrids which were brought to the show by Mr. John C. Wister and Mr. Harry Wood, for which we are indeed grateful.

This was the first time in a generation that New York flower lovers had an opportunity to see some real Peonies and the interest and excitement aroused was worth all our efforts. It is quite apparent that the New York area is a fertile field for commercial growers and those who have roots for sale would do well to exhibit here next year.

The 1949 show will be held on June 9th and 10th under the auspices of the Horticultural Society of N. Y. at one of the finest exhibition halls in the entire East, i.e., the Essex House facing Central Park. This will be a combined Peony and Rose show. It will be amply publicized. I shall not feel that the show was a complete success until I have had another 25 names added to our membership roster.

To all of those who participated in this show, I wish to extend my sincere thanks.

Louis Smirnow

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SPECIAL NOTICE

Tentative arrangements have been completed to hold our Annual Peony Show at Milwaukee, Wis., June 21st and 22nd, 1948.

This show will be held in cooperation with the Federated Garden Club of Milwauke County, The Florist's Association and the Nurserymen's Association. This is to be tied in with the program of the Milwaukee County Beautification Project which is being promoted for the year 1949 and will be staged in the Auditorium.

More details will follow in the March issue of the bulletin which will doubtless contain the class schedules.

We have been obliged to hold up this issue of the Bulletin for the above information.

W. F. Christman, Sec'y

Secretary's Notes

As I start these notes Nov. 2nd, there is nothing on the air but political returns of many candidates who will be happy or sad when final accounting is completed. Of course this statement will be clarified in a few hours but while it lasts there is considerable tension as the votes seem to be running quite close.

✕ ✕ ✕

With the various weed and insect killers on the market we are looking for relief in handling these problems that have been real trying problems in the past.

In a recent pamphlet, New Jersey Agriculture, there is a very interesting article on this matter by Dale Wolf. I am taking the liberty of quoting this article in full as it is very informative.

NEW WEED KILLER MUST BE HANDLED WITH GREAT CARE

The discovery of 2,4-D is the greatest boon to agriculture since the development of hybrid corn. In three years, the use of this chemical has grown to be a multi-million dollar industry.

With such a rapid development there necessarily have been difficulties, most of which have arisen from the fact that people failed to realize the tremendous potency of the weed killer. No general respecter of weed and crops, 2,4-D kills most broad leaved plants.

Tomatoes Damaged

Many cases of severe damage to tomatoes have been reported during the 1948 season from this powerful weed killer. Symptoms of 2,4-D injury are often confused with insect or disease damage and it is difficult to enumerate clear cut symptoms.

Most cases of injury have been caused by drift from nearby fields of corn or oats which were being sprayed with 2,4-D. Severe cases of injury have been reported occurring as far as 300 yards from fields being sprayed. Injury to tomatoes this distance away has been so severe that the plants have failed to set fruit.

Use Separate Sprayer

Another major source of injury to susceptible crop plants is the spraying of these crops for disease and insect control using a sprayer contaminated with 2,4-D. It is difficult to remove all traces of this chemical from a sprayer and, therefore, it is best to be safe and keep a separate sprayer for the application of 2,4-D.

Many crop plants are damaged by minute amounts of 2,4-D. Some of the more susceptible crops grown in New Jersey are:

Tomatoes	Vetch	Lettuce	Soybeans
Beans	Onions	Spinach	Peas
Alfalfa	Asparagus	Beets	Grapes
Clovers	Cabbage		

A weed control committee at the New Jersey Agricultural Experiment Station, composed of specialists from the agricultural fields, has listed the following precautions in using 2,4-D:

1. Do not apply 2.4-D with a fog machine or airplane.
2. Do not use 2.4-D dusts. These are more subject to drift.

3. Special care must be taken when spraying an ester formulation of 2,4-D since this form is more volatile and therefore more likely to drift.
4. Do not apply 2,4-D when the wind is blowing or when there are strong air currents.
5. Do not use pressures above 40 pounds when spraying. High pressures will tend to atomize the spray and make it more subject to drift.
6. Use a hood over spray boom to cut down chances of drift.
7. Avoid overdosage by following the directions on the container or by consulting your county agent.

Good If Used Right

The use of 2,4-D on New Jersey farms has saved many fields from being overrun with weeds. If the above precautions are followed, there is little danger of injury to nearby crops; but to use 2,4-D carelessly is to invite injury to easily damaged crops, be they your own or your neighbor's.

* * *

Adding to the above article, which does not mention peonies, I want to report that I have received a brief article from one of our members stating that he has used 2,4-D on his peonies two or three different times with the result that they appeared to benefit by this treatment. For our own satisfaction I had four plants of *Lillian Gumm* sprayed heavily with 2,4-D and the only difference I can discover from the plants sprayed is that the foliage, now frozen, appears somewhat darker. I will examine the roots to see if any damage has been done, but due to the fact that the foliage did not die in mid-summer when the spray was applied, leads to the conclusion that no definite damage resulted. There may be some damage to the roots of these plants that is not yet apparent to the naked eye. WE DO NOT RECOMMEND THE SPRAYING OF PEONIES WITH WEED KILLERS OF ANY KIND. Something more definite may be learned later that will change our opinion.

⋉ ⋉ ⋉

We have just recently received a letter that we want all our peony members to read and I am taking the liberty of quoting as follows:

"Dear Mr. Christman:

"Greetings from mother and me to you, your family and all our good peony friends!

"I realized only a few days ago that one can become a member of the American Peony Society without actually being a peony grower; in fact, that all that is necessary is the urge to become a member, plus the dues. Am I right?

"Had I known, I would have joined immediately after my father had passed away. It was a stupid mistake, no doubt, but at any rate, my check for dues is enclosed to mend matters.

"By chance, a friend showed me your latest catalogue a few days ago, and I browsed through it with considerable nostalgia and a keen interest, naturally, as so many of my father's seedlings are listed in it. It was like meeting a host of very old and dear friends again. Always I will be thrilled in seeing these so familiar names in your catalogue and of having the comforting certainty that the peonies my father loved and dreamed over, will bloom on in beauty year after year, as he would have wished.

"Immediately I felt impelled to write you and express my pleasure in your catalogue.

"With my earnest good wishes, cordially,

Laura G. Kelsey
221 Norwood Ave.
Buffalo 13, N. Y."

Mr. Kelsey named one of his finest peonies after his daughter Laura which will be more frequently seen on our exhibition tables in the very near future. Miss Laura Kelsey is an accomplished musician and conducts a studio in Buffalo and I quote further from her letter: "My studio is a busy place these days with incipient pianists in all stages of coming and going all day long. They are eager and full of purpose, as most of them plan to be professional musicians: so I work very hard with them and have frequent musicals here at the studio and bigger recitals outside. Their talents and high hopes are a real inspiration to me, which compensates for the amount of nervous energy that this sort of thing takes."

⁂ ⁂ ⁂

Letters like this please us and I hope there may be many who feel as Miss Kelsey does about joining the Society. We need you and will strive to make your membership interesting and helpful.

Mr. B. L. Bruce has summed this up in two splendid verses entitled, "Little Things That Add Up":

How much we miss by hurrying
Along our treadmill way,
Omitting words considerate
That season what we say!
The kindly courtesies of life,
Hospitable and dear,
Are links that bind us graciously
To one another here.

We little dream how much we need
The cheer of those we meet,
Nor how we too may help the faint
To overcome defeat.
Our frequent alms and well meant gifts
Will not sustain for long,
But in the music of the heart
Is an enduring song.

⁂ ⁂ ⁂

Shortly after receipt of this bulletin, annual dues for the year 1949 should be remitted to this office, if not already sent in.

Our members forget that dues are payable in advance. Please save us the unnecessary labor of getting out these notices and the expense of mailing them. This labor entails a great burden on this office, and were it not for the fact that this work is done almost entirely by my good and faithful wife, I would not be able to keep up the work as Secretary and carry on my other duties. You can help us out by mailing your remittance promptly after the first of the year. We will regard it as a Christmas present to the Society and a great favor to the writer. I know we can count on you.

⁂ ⁂ ⁂

As these notes are being prepared, planting activities are still in progress. The fall has been ideal as far as mild weather is concerned, but there has been insufficient rainfall to meet our requirements but on Nov. 3rd, the dry spell was broken by an all day rain and as I write it is still raining. We could use many more days like this. It has been facetiously remarked by some smiling Democrats that it was caused by the tears of defeated Republicans.

It was my plan to announce the winners in the Essay Contest in this issue, but as these notes are being prepared it seems apparent that we will have to wait for the next issue of the bulletin before all judging is completed. In case I do get results it will be anounced in this issue. Contest closed Sept. 30th.

The membership drive is also closed as far as the contest is concerned but we hope you will not lose sight of the fact that we want the effort continued, and whenever you can secure a new member, please do so.

We are unable to state at this time where the next year's annual exhibition will be held as we had hoped to have settled before this.

As this bulletin will doubtless reach our members before Christmas, we wish to extend Season's Greetings with the sincere hope that your coming year will be most enjoyable, particularly during the month of June when your peonies bloom, and in addition, that health and prosperity will be with you througout the coming years.

W. F. Christman

Superior Peony Show for 1948

We had our two day Peony Show in Superior June 28th and 29th, which was two weeks earlier than our last year's show.

This being only our third attempt to stage a peony show, we still feel inexperienced, but from reports of visitors our show was bigger and better with many more varieties of peonies exhibited.

We hope in time that Superior, Wisconsin will have a Peony Society that will promote these shows, and not just our garden club with about half of its members able to assist at the time peonies are in bloom.

Visitors came from Minnesota, Michigan, and California.

Kelway's Glorious won the prize for the best peony. The following peonies were shown: *Festiva Maxima, Duchesse de Nemours, Primevere, Mary Brand, Evening Star, Karl Rosenfield, Mary P. King, Mme. Emile Debatene, Sea Shell, Sarah Bernhardt, Loren Franklin, Milton Hill, Mons. Jules Elie, Mme. Jules Dessert, La Lorraine, Kelway's Glorious, Le Cygne, Mons. Martin Cahuzac, Philippe Rivoire, Nina Secor, Frances Willard, Bernard Pallisy, Walter Faxon, Chestine Gowdy, Felix Crousse, Peggy, Longfellow, Marechal Vaillant, Cathedral, Innocence, Hari-ai-nin, Yoochi-no-tsuki, Jimmie Franklin, Krinkled White, Duluth* and *Mrs. Franklin D. Roosevelt.*

Through the generosity of Loren Franklin we were able to offer some of the best Franklin peony roots for prizes.

Our many artistic arrangements of peonies, and also without peonies using only garden flowers, were beautiful and attracted much attention.

We had 48 exhibitors, 25 for specimens and 39 for artistics. There were 114 artistic arrangements and 55 specimen peonies entered. Having a total of 169 entries and 300 visitors to our show, we report a most successful show.

Yours sincerely,
MRS. CHARLES LUND, *Chairman*,
1731 E. 8th Street, Superior, Wis.

New Members Since Last Bulletin

Banks, A. G., Box 37, Woodridge, Ontario, Canada.
Barrett, Mrs. D. V. 2023 3rd Ave., E. Hibbing, Minn.
Beasley, Louis B., 1308 First, Eldorado, Ill.
Brownell, Mrs. Marion, Star Rt. 1, Hibbing, Minn.
Clark, Victor R., 520 Prairie, Sullivan, Ill.
Crouch, Floyd C., 1608 Cherokee Place, Bartelsville, Okla.
Conner, Mrs. G. E., 1191 Harpster Ave., Akron 14, Ohio.
Crane, Mrs. F., R.R. 1, King, Ontario, Can.
Cull, L., Newmarket, Ontario, Canada.
Daugherty Miss Flora L., Box 127, Alpine, Texas.
Dickinson, Mrs. Archie, R.R. 1, Mansfield, Ontario, Can.
Dotson, Mrs. Ira P., 1405 Ave. B., Dodge City, Kansas.
Dudley, Thomas Parker, P.O. Box 505, Arcadia, Calif.
Ellenberger, Dr. Herman A., R.F.D. 1, Newton, N.J.
Gould, Leo C., The Gould Farms, Pittsboro, N. C.
Elliott, Clifford L., Kaysville, Utah.
Elliott, Mrs. Victor, 465 Marview Ave., Akron, O.
Gaster, Lester F., Rt. 4, Box 4, West Point, Neb.
Garman, Mrs. H. B., R.D. 1, Box 156, Everett, O.
Graham, Roy F., 818 E. Big Bend Blvd., Webster Grove, Mo.
Gratwick, William, Rare Plant Nursery, Linwood, N.Y.
Griffith, L. A. 5923 Hadley, Merriam, Kas.
Hall, Mrs. Leonard, R.R. 3, King, Ontario, Canada.
Hamilton, Miss Lorna, Moorfield, Ontario, Canada.
Harrison, Mrs. Robert C., 5101 Cary Street Road, Richmond 21, Va.
Hensley, Mrs. M. D., 914 Ramsey Ave., Cody, Wyo.
Hunt, Wm. J., M.D., 314 Schneider Bldg., St. Joseph 8, Mo.
Jackson, Alan B., 36 Peel St., Simcoe, Ontario, Canada.
John, W. A. P., 556 Tooting Lane, Birmingham, Mich.
Johnson, Mrs. L. R., Box 68, Gassville, Ark.
Johnston, Miss Emma, Bluevale, Ontario, Canada.
Kelsey, Laura G., 221 Norwood Ave., Buffalo 13, N. Y.
Krutel, Mrs. Clara, 1261 Wooster Ave., Akron 7, Ohio.
Lambert, Mrs. Francis, R.D. 1, Newton, N. J.
Littleford, Frank J. Littleford Nurseries, Vincennes, Ind.
Lavenstein, Meyer H., 232 Trenor Drive, New Rochelle, N.Y.
Loch, Mrs. L., 120 Ridley Blvd., Toronto 12, Ontario, Canada.
Longley, C. W. 382 Hoburn Ave., Toronto 12, Ontario, Canada.
Maxon, Lou, 820 W. Avon Road, Rochester, Mich.
Maxwell, Richard N., Box 56, Middleton, Mass.
Muller, George H., King's Highway, P.O. Box 82, Tappan, N. Y.
McCann, J. J., 2810 Third Ave., W. Hibbing, Minn.
Niemiec, B., 999 Auburn St., Manchester, N.H.
Odle, Harold, Rollins, Mont. On Flathead Lake.
Orrell, Mrs. Robert W., "Sweetwater" Cardinal, Va.
Pattison, D. J. Sunnyside Ave., Ottawa, Ontario, Canada.
Phipps, Robert L., P.O. Box 65, Cedar Glen, Calif.
Prescott, Walter N., 4002 Garfield, Kansas City 4, Mo.
Price, Mrs. Carleton, 1207 W. Trial St., Dodge City, Kansas.
Richmond, Gilbert S., 4711 Grayton Road, Cleveland 11, Ohio.
Robb, Mrs. S. A., Moorfield, Ontario, Canada.
Rodgers, Mrs. Lee W., Box 182, West Richfield, Ohio.

Rogers, Walter, Rt. 2, Bloomington, Ind.
Max Schling Seedsman, Inc., 618 Madison Ave., N. Y. 22, N. Y.
Sinkler, Mrs. Vernon, 807 N. Buchanan, Green Bay, Wis.
Sisney, Mrs. E. W., 1303 Broadmoor, Amarillo, Texas.
Sitterding, F., Jr., Harrison & Clay Streets, Home Brewing Co., Inc., Richmond 3, Va.
Smith, Rev. A. N., R.F.D., Andover, N. J.
Sparger, S. W., Commercial Realty Co., Durham, N. Carolina.
Storey, Mrs. Arthur, R. R. 3, King, Ontario, Can.
Tuttle, E. B., Metcalf Road, Billings Bridge, Ontario, Canada.
Westberg, E. D., 213 Irving Ave., Rockford, Ill.
Whitmore, J. E. D., Rideau Park, Billings Bridge, Ontario, Can.
Wilkus, A. J., 909 Winslow Ave., St. Paul 7, Minn.
Williams, Mrs. Benj. J. Cimarron, Kas.
Windsor, Frank B., Rt. 1, Box 280, Salem, Oregon.

Editor's Note: We will greatly appreciate the report of any errors, omissions or corrections that might be noted, as we are very desirous of having our mailing list correct in every detail. If your bulletins are incorrectly addressed, advise this office at once giving us correct address.

Department of Registration

Mrs. Mary E. G. Freeborn of Proctor, Vermont, presents the following varieties of her origination for registration.

Emily D. Proctor (Freeborn 1947) J. E., P. Seedling of *Pico.* Other parent unknown. An old rose Japanese type flower with well cupped petals, medium size. Staminodes pale yellow, tipped paler yellow. Carpels pale green, tipped pale pink. Staminode filaments delicate pale yellow. Another form, not petaloid. Disc, lobes irregular, small, white. Plants and stems strong and erect, 30 inches. Foliage broader than Pico's, showing some Jap. waviness.

Ginny (Freeborn 1947) D., E., R. Seedling of *Tamate-Boku.* Other parent unknown. Brilliant red double of medium size with a good plant and strong stems, 30 inches. Some blooms of Jap. form with outer staminodes narrow and pointed. No filaments. Carpels pale yellow. (3) Stigmas overcast with red. Disc.—an almost imperceptible pale green ridge.

Mr. A. J. Wilkus of the Riverview Gardens, 909 Winslow at Annapolis, St. Paul 7, Minnesota, desires to register the following variety:

King Boreas (Wilkus, 1948). Seedling No. 1. D., LM., W. Blooms globular and very large and full. Exhibition type and also a good cut flower as well as a show flower. Color is pure white with no trace of any other color. Tall with exceptionally heavy stem, holding the blooms erect. Foliage rich, deep green. Blooms late midseason. This variety was awarded the American Home Achievement Medal at the Annual Show of the Minnesota Peony and Iris Society at Minneapolis, Minnesota, June 1948. It also was judged the best white in the show.

A Communication

DAVID C. LEACH, Brookville, Pa.

I think that Mr. Ralph B. Smith of Keokuk, Iowa has the experimental, scientific approach which the culture of peonies badly needs, but I feel I must correct a statement which he made in his article appearing in the September, 1947 Bulletin.

Mr. Smith said: "It (sawdust) has an acidifying effect which is not good for peonies, and I counteracted that by mixing it with limestone dust so as to make it neutral at the time it was put on."

This is a mistaken belief which is held by many gardeners.

Actually, sawdust does not affect in the least the acidity of soil to which it is added. Experiments with sawdust from both soft and hard woods, separately and in combination, and with aged sawdust which had been weathered for some years, produced not the slightest evidence to support the theory that the addition of sawdust affected the acidity of the soil.

Many gardeners have noticed that the addition of sawdust, particularly that which is fresh, has a depressive effect on the growth of plants in the soil. This effect is, however, entirely unrelated to the acidity of the soil.

The depressive action of sawdust on plant growth results from a nitrate deficiency which follows the addition of sawdust to the soil. The carbohydrate material in sawdust supplies the microorganisms in the soil with food and energy, which in turn increases their demand for available nitrogen. Plants growing in the soil are deprived of the nitrates assimilated by the microorganisms, and plant growth is for that reason inhibited.

This depressive action on plant growth can be entirely eliminated by adding to the soil 225 pounds of sodium nitrate or 180 pounds of ammonium sulphate for each ton of sawdust incorporated into it. In the case of peonies. sodium nitrate would doubtless be the better choice.

Dr. L. M. Turk, professor of Soil Science at the Michigan State College has conducted the most extensive experiments with sawdust which have been attempted in this country and the results show that it is a valuable soil amendment. The principal benefits are largely of a physical nature.

Sawdust, when mixed with heavy soils, will loosen them. Their structure and aeration will be improved, and their water holding capacity increased.

Since 25 pounds of sawdust will absorb 100 pounds of water, it is equally valuable as an addition to sandy soils.

If you think your other members would like to have this information, Mr. Christman, you may print it in the Bulletin; otherwise, would you please just forward the letter to Mr. Smith so that he can make use of the data as he may wish.

* * *

Correction

I am just in receipt of a letter from Miss Laura G. Kelsey dated Nov. 7th and quote as follows from her letter.

"You know I helped name a few of my father's originations, and was always keen on his vivid sense of fitness and beauty in this connection so I think I ought to tell you that in the June 1948 Bulletin on page 9 *Ernest Hutcheson* is misspelled Hutchinson. He is the world renowned pianist and teacher, formerly dean and president of the Juillard School of Music in New York, and was my teacher, when I studied in New York. This may even have been misspelled in my father's notations, as practically everyone spells it wrong.

"I notice in your catalog the name *Kathalo* is spelled correctly, but in the bulletin, page 11 (June 1948 issue), it is misspelled Kathelo.

Kathalo Kelsey was my paternal grandfather and my dad just worshipped his memory."

Editor's note: We are glad to get these corrections and it is our intention to make the corrections. but they do get by in spite of careful reading of type.

Lilacs and Peonies

JUDGE JOHN S. SNOOK, Paulding, O.

Last summer, a lady visiting my garden said, " the lilac has always been my favorite flower but I did not know that there were more than one kind." Most people, like this lady, have seen only the old familiar lilac of our mother's garden to which the commercial growers give the name *vulgaris.*

However, the landscape artists and public gardeners appreciate the beauty of French lilacs. At Highland Park, Rochester, N. Y. they grow more than four hundred varieties. At the New York Botanical Gardens over one hundred varieties and at Brooklyn Botanical Gardens over two hundred varieties and there is a similar collection at the Arnold Arboretum in Boston.

Mr. A. M. Brand of Faribault, Minn., one of our foremost commercial growers and breeders of perennials, in each of the late years has been devoting more space in his annual catalog to "Brand's new improved French lilacs with blooms so large and beautiful one can hardly imagine that they are related to the common lilac" and he adorns the cover and pages of his catalogs with beautiful pictures in colors of many of the fine varieties he is growing and offering for sale, and I might add that Mr. Brand offers about the largest and best selected list that has come to my attention. There are also other commercial growers offering a list of fine varieties; among those are The Farr Nurseries of Weiser Park, Pa., and Cottage Gardens, Lansing, Mich. Since we cannot grow azaleas and rhodendrons in our soil, I have found that French lilacs are the finest flower shrubs for Northwestern Ohio, also that they go well with peonies and iris.

So in my garden I have acquired and grow about fifty out of the many hundreds of French lilacs. They are planted as a hedge or border along one side, one end and a part of the other side of an ordinary town lot. Mr. Brand advises that the plants should not be less than eight feet apart, and if you have room to do so it will pay to follow his advice, but for want of room I have been compelled to plant my bushes much closer together so that they make a fairly close hedge. The ground in which they are planted is raised about a foot above the surrounding earth which makes for better drainage.

Mr. Brand also advises to keep the plants "well hoed." I well know the value of cultivation, however, owing to the fact that my plants are so close to each other, and the fact that I have not been able to get help, I keep the plants heavily mulched with leaves and straw, and find with such treatment my plants make good growth and respond with abundant bloom. Mr. Brand also advises the use of well rotted barnyard manure. There is nothing quite as good if you can get it, but if not, the use of commercial fertilizers will pay good dividends. He also says that he has experimented with the propagation of the French lilac for over twenty years and has discovered that the only practical way to grow it is on its own roots. Very sound advice. Though most of my plants are on their own roots, I have found that some of my grafted plants have done very well and produced fine blooms.

I acquired most of my stock through Dr. J. H. Neeley while he was still living, and am pleased to say that he was the most capable and enthusiastic flower grower and breeder I have ever known.

On one occasion Mrs. Edward Harding sent the Doctor a few scions, some of which he shared with me and used to graft on some old fashioned lilacs. We were quite successful and I have had some fine blooms as a result. Among these is *De Miribel*, the darkest of the so called reds. Dark-bluish purple, long, slender, compact panicles. Mr. Brand says the demand for this variety is always greater than the supply. It is one of the best.

Jules Finger has large, loose tresses, purple color, somewhat similar to Etna.

Toussaint l' Ouverture, similar to *Miribel* with long, dark red, slender tresses.

Congo is one of the best reds. *Monge* and *Edmond Boissier* were so near alike that Mr. Brand in his 1947 catalog uses one color picture which he states fairly illustrates all three. *Congo* is a clear single red that should be in every collection.

Care should be exercised in planting or the plants may not grow. Directions for planting are given in detail in most lilac catalogs.

Both the grafted plants and those on their own roots start slowly and it usually takes from three to four years before one gets good blooms. About the only pests that attack the plants are borers and the scale. I have not been able to find any effective remedy for the borers though I have tried several. The scale is best controlled by spraying with lime and sulphur.

I have had a chance to study my plants by comparison with others, as there are two other growers in town who have quite a nice collection of most of the varieties that I grow. One, Mr. Edward Fincue has a number that he budded on old stock and he has succeeded with some varieties in this manner very well. The other grower, Mrs. Oliver Ferrell was the next door neighbor to Dr. Neeley and started her plants with sprouts from his garden. She is one of those persons who know how to make things grow. She has a number of the best varieties and among them several specimens of *Leon Gambetta,* that every year produces blooms of unusual size and beauty. She has a large bush of *Katherine Havemeyer* that seldom fails to be entirely covered with blooms a foot long.

I will try to give a condensed description of many of the varieties I am growing, but I must confess that this is very much more difficult than I thought. I believe it will be helpful to quote a part of what Mr. A. M. Brand has to say about lilac descriptions.

LILAC DESCRIPTIONS.

"Many of the peculiarities of any variety of lilac are easily described. One can tell at a glance whether the florets are single, semi-double or double or whether the panicles are simple or compound, long or short, loose or compact. But when it comes to color, probably no two persons would name exactly alike the colors of any dozen varieties of lilacs."

"A little explanation may help to interpret our descriptions. When we say a lilac is red, we do not mean that is scarlet; or when we say it is blue, we do not mean sky-blue, as an occasional customer seems to expect. The truth is, the colors of all lilacs are soft. They are made up of different proportions of blue and red with more or less addition of white. If the red predominates in the light shades, we may call the color pink or rose. If the blue predominates decidedly, we may call the color blue; but if the blue, while dominant, is less pronounced, we may call it lavender, lilac, violet or mauve.

In the dark colors, if the red predominates decidedly we may call it red. as with *Reaumur.* If the blue predominates we call it purple. Then to be more definite, we sometimes say reddish purple or purplish red.

It must be remembered also that, aside from the difficulty of getting the exact name for the normal color of a variety, this color may change somewhat with the season. For example, this year we had cool, cloudy and rainy weather throughout the season. Consequently, the colors were all darker than usual. The character of the soil also sometimes changes the color slightly." Bearing

in mind the difficulty Mr. Brand finds in trying to describe the colors found in the various varieties and realizing that no one can do the subject full justice, I will endeavor to do the best I can.

I will start with so called pinks:

Leon Gambetta—Large, compact panicles made up of hundreds of perfect little double roses, dainty pink and lavender. Mr. Brand says, "There are many fine lilacs but we believe this is the most beautiful of all.

President Fallieres—Semi-double, lighter pink than *Leon Gambetta,* showing more lavender with the florets not so compactly set.

William Robinson—Lavender and reddish pink, the double florets set quite closely together along the stem, and the pink fading to lavender as the bloom fully opens.

Lamartine—Single, large lavender blooms; the earliest to bloom and the tallest plant.

Paul Deschanel—Blooms double and among the largest. Beautiful color, composed of a blending of violet, rose, pink and lavender. New, and not found in many lists. Very nearly as fine as *Leon Gambetta.*

Siebold—Double, large panicles. Rose like florets, creamy white, tinted flesh pink. Hard to distinguish from *Leon Gambetta* and about as good.

Belle de Nancy—Double pink panicles composed of very loosely set florets.

Uncertain—A double pink that came from Dr. Neeley's garden, the name of which I do not know. The florets are double pink, coral tinted panicles, consistent heavy bloomer, much admired.

Mme Antoine Buchner—Semi-double, late, bright pink, suffused with rose. Medium size. Long, shapely open trusses.

Lucie Baltet—Single, coppery rose-pink, distinctly different from all other pinks. Much admired on account of its color. Quite scarce and hard to get.

There are a number of very good whites, all very much alike except some are double and others are single.

Miss Ellen Willmott is about the best of the double whites and one of the thriftiest growing bushes. Large trusses of double rose like florets, creamy white.

Edith Cavell—Fully double; very much like *Ellen Willmott* except the flowers seem to have a slight sulphur tint.

Casmir Perrier—Double white, showing some yellow stamens, very sure bloomer.

Of the single whites, the best two are *Jan-van-Tol,* with rather loose tresses of large, pure white single florets. Very sweetly scented.

Marie Finon—Not so thrifty a bush but one can hardly see any difference in its blooms from those of *Jan-van-Tol.*

These two singles are very fine and should be in every collection.

I have a number of varieties that are called blue but only one of them is clear blue.

President Lincoln—A new American lilac by Dunbar of Highland Park, N.Y. A single, admired for its clear, blue color, free of lavender found in so many of the so called blues. It is quite early and is often damaged by the early frosts.

Of the lavender tinted blues *Olivier de Serres* is the best, large strong growing bush. The blooms are fully double and I believe the largest of any of my lilacs. A lavender blue resembling the inside of a sea shell.

President Grevy is one of the oldest French varieties, large, lavender-blue blooms. Not so good as *Olivier de Serres*, but well worth a place in any collection.

About one half of all the varieties I have are classed as red or purple and it is difficult to decide which of these I like best.

Although there are others almost, if not equally as good, I will start with *Monge*, one of the newer varieties. A single; very large broad panicles; bright, deep, rich red, showing very little purple. Mr. Brand says it seems to deserve the name of the very best red.

Paul Thirion—Double, large trusses made up of compact panicles like small double roses. Lighter than *Monge*.

Claret Rose—Stands very close to the top. I often go back the second and third time to admire this one. The name describes the color.

Reaumur—Single, color rose red. The blooms seem to be made up of several of small size, worked together so as to appear as one. Holds its color well in the sun.

Katherine Havemeyer—Color Mauve, or violet mixed with pink and difficult to describe. About the largest of all lilac blooms, sometimes nearly a foot long. Very thrifty bush and a most persistent bloomer.

Mrs. Edward Harding, named after the woman who wrote that interesting book on the peony, bears flowers of rich claret color, mixed with pink and lavender. Double and very large.

Volcan—one of the best single purples and one of the heaviest bloomers. The late Mr. Bonnewitz visited my garden almost every year and *Volcan* was his favorite.

Souv. de Ludwig Spaeth is another single, purple-red—one of the oldest but one of the best of the improved varieties.

Charles Joly—Double, purple-red, also one of the oldest but one of the best of the French lilacs.

President Loubet—A double, bright red in the bud stage, showing some white on the inner edge of the open petals. Very fine, but with me it seems to grow very slowly.

President Poincare—Double, large, globular purple and lavender blooms.

Adelaide Dunbar—Double, compact blossoms, opening a dark purple, changing to a bright red. It is one of the richest reds and one of my favorites.

....*Etna*—Single, color purple, very large blooms, panicles loosely set along the stem, one of the newer varieties, among the best. Some one possessed with imagination must have thought up this name. I never see it but I think of the day when I stood on the heights at Taormina and looked across the valley to the terraced vineyards and snow capped Mt. Etna, veiled in clouds and smoke, one of the most beautiful, yet awe inspiring sights it has ever been my lot to witness.

Mme Francesque Morel—Single purple, flushed with mauve pink. Extra large florets.

Charles 10th—One of the oldest of the French varieties. Single, a slight advance over the old fashioned lilac. Reddish color, said to be the best variety for cut flowers. I brought my stock of *Charles 10th* from the farm where I was born, where it has been blooming for over fifty years.

Persica—Commonly called the Persian lilac, bushy habit, small, fragrant purple flowers with loose panicles. Recommended by Mr. Brand to be grown as a hedge.

There are many that I do not have that I have seen most highly recommended. Some of these I remember are *General John Pershing, Captaine Baltet, Marechal Foch, Marechal Lannes, Henri Martin, Macrostachya* and *Buffon.*

The growers also announce that they are soon to offer some fine new varieties. There are so many beautiful varieties that it is difficult to pick any single one or even a small number as the best. However, I will say that a majority of the people who visited my garden this year picked *Olivier de Serres* and *Monge* as their favorites, and while the difference is not great, I would say for myself I have a slight preference for the following. Of the pinks, *Leon Gambetta* and *Paul Deschanel.* Of the whites *Miss Ellen Willmott* and *Jan-van-Tol.* Of the blues *Olivier de Serres* and *President Lincoln;* and of the reds and purples *Monge* and *Paul Thirion.*

One of the definitions which Webster gives of nature is "The personified sum and order of causes and effects." When one grows things he soon learns that nature manifests the sum and order of effects in strange and unexpected ways.

This year the long, wet, cold spring which had such a harmful effect on crops of grains and vegetables, seemed to be just what the lilacs needed for they grew and bloomed and cast their fragrance as I had never known them to do before.

Last spring, when all this was happening, I was so enthusiastic that I thought it would be easy to describe the beauty and fragrance I was enjoying, but now I realize what a difficult task it is and how I have failed, and in this I am not alone.

Mrs. Francis King has put it this way—"No one has sung the praises of the lilac as they should be sung, yet it deserves praise; its virtues are its graceful beauty of form and color of flower, the aspect of the shrub on which these are born; its fragrance unique and filled with sentiment for Americans."

* * *

Correction for Bulletin

Mr. W. F. Christman
Sec. A. P. Society,
Northbrook, Ill.

Dear Sir:

Just a note, correcting an error in the originators name and address of *Miss Eckhart* and *Zus Braun.*

In Mr. George W. Peyton's "List of Recent Peony Introductions" in Bulletin No. 91, September 1943 I find on page 28—
Roelof Arendsveen vander Meer, Boskoop Holland.

The originator's name is: *Van der Meer;* The town he lived in is *Roelof-Arendsveen, Holland.*

Mr. Van der Meer sold his originations to some Peony growers here at Boskoop, Holland, who distributed these peonies..

This correction may be useful for your Bulletin or for the next *Manual.*

Would appreciate an article on hybrid peonies with double flowers on good stems blooming at the time of *P. officinalis.*

Yours very truly
Henry J. Grootendorst. *Boskoop, Holland*
February 11, 1948

Two Suggestions for the New Manual

1. NAMES OF PEONY SPECIES.

May I suggest that the names of peony species used in Col. Stern's recently published, Study of the Genus Paeonia be adopted in the proposed new A.P.S. Manual?

It is a rule of the International Congress of Botanists that the correct name of a species is the first name published in a work in which the binomal system is used throughout, and accompanied by a full description of the plant named.

That would make *P. lactiflora* the correct botanical name of the species now properly known as *P. albiflora*, since the former meets all the conditions of the above rule.

Another rule prescribes that all names which cause confusion to science should be abandoned, and the name *lobata*, as applied to any species or variety of peony, must stand high in that class.

Peter Simon Pallas used it in 1773, without any description, in connection with a species that is probably *P. lactiflora* (syn. *P. albiflora)*, and in 1804 Desfontaines used it in the same way of a peony then in cultivation in the Jardin des Plantes in Paris, which no one can identify today.

In 1817 DeCondolle published the name *P. lobata* Desfontaines ex D.C., giving it to the species which Phillip Miller had already named *P. peregrina* in 1768, and applying Miller's name to a plant from Montpellier in southern France; but the next year (1818), Anderson gave the name *P. decora* to Miller's *P. peregrina*, and in 1824 De Candolle accepted Anderson's name *P. decora* and amended his description of *P. lobata* Desfontaines ex D.C., applying it to an Iberian species now known as *P. Broteri.* That same year, however. Sweet applied the name *lobata* to Miller's *P. peregrina*, without any reference to Desfontaines, and in 1839 Boissier applied it to the Iberian species to which DeCandolle attached the name *P. lobata* Desfontaines ex D.C. in 1824, but to which, three years later, (1842) Boissier himself and his collaborator, Reuter, gave its present name *P. Broteri.*

In 1939 too, Reichenbach describes as *P. lobata* Desfontaines ex Reichenbach, a peony indigenous to the south of France, *P. humilis var. villosa*, the same peony which DeCandolle in 1815 and 1817 had identified as *P. peregrina* Miller on the authority of a misnamed specimen in the Banksain Herbarium, and of a colored plate of same published in the Botanical Magazine in 1804. by John Sims.

Anyone who has read this so far will surely agree that the name *lobata* has caused more than enough "confusion to science" to warrant its rejection as the name of either a species or of a variety of Paeonia, and its earliest publication, accompanied by a full description of the species to which it was given, is nearly fifty years later than Miller's name for the same species.

Anderson's name—*(P. decora)*—for Miller's *P. peregrina is* also invalid under the first mentioned rule, as Miller's name antedates it by half a century.

The same rule renders invalid both *P. corallina Retzius*—another popular name, long in use—since Miller's name for the same species *P. mascula.* is 15 years older, and *P. paradoxa* of Anderson, which is 35 years later than *P. humilis* Retzius.

How Miller's *P. peregrina* came to be renamed *P. decora* by Anderson and to be confused with *P. humilis var. villosa* by DeCandolle, is fully and clearly told in Colonel Stern's monograph.

Miller died in 1771 and three years later his herbarium was bought by Sir Joseph Banks, from whom it passed to the British Museum. The sheet in the Banksian Herbarium which is inscribed *P. peregrina* Mill. Gard. Dict., bears a specimen of *P. officinalis* and of another peony from the south of France, neither of which agrees with Miller's description of his *P. peregrina* which, with his reference to Bauhin's *P. peregrina*, on which he based his species, makes it quite clear that *P. peregrina* Miller, is really the species found in the Balkans and on the coast of Asia Minor that has come to be known as *P. officinalis lobata*, and *P. lobata*, and *P. decora*.

Up to the end of the last century, botanists followed Anderson and DeCandolle, but in 1899 Fritsch called attention to the difference between Miller's description of his *P. peregrina*, and Sims' colored plate in the Botanical Magazine of 1804 and the specimen in the Banksian Herbarium on which the plate is based, and in 1918 Dr. Stapf endorsed and elaborated Fritsch's argument.

The authorities of the British Museum have assured Col. Stern that the writing *P. peregrina* Mill. Dict., on the sheet in the Banksian Herbarium is that of Daniel Solander, horticultural secretary to Sir Joseph Banks—not Miller's; and further, they are almost certain the sheet was not originally a part of Miller's own collection, but was a part of the Houston Herbarium bequeathed to Miller in 1773.

It seems clear that Solander, finding no specimen of *P. peregrina* in Miller's herbarium, wrote the inscription *P. peregrina* Mill. Gard. Dict. on a sheet that, till then, had borne no label, and so occasioned errors and confusion that have come down to our own day.

2. PARENTAGE OF HYBRIDS.

It is a rule with geneticists and plant breeders to place the name of the seed parent first, when giving the name of a hybrid plant, and I had always assumed that that was done in varieties in the Bulletin 'til I read Dr. White's remarks in his article—Species Hybrids Are Fun (Bulletin 101, page 5)—that most of the double hybrids are probably produced by using the double *officinalis* varieties for seed parent, or seed parents. In that case some of the *albiflora x officinalis* crosses mentioned in the bulletin must really be the reverse cross—*officinalis x albiflora*.

Would it be giving breeders too much trouble to ask them to observe the rule in contributions to the new manual and in later contributions to the bulletin?

C. M. Clarke,
Teepee Creek, Alberta, Canada.

Here's One for the Book

Last June, when it looked like we would have to cut every peony that came out to get into the 50 class, began to look around for storage space. Booth Cold Storage, who has always taken care of us in the past, said they were swamped and try elsewhere. Finally said the only space they had would be in the Apple Room and as Apples give off considerable aroma, he was afraid it might spoil the peonies. . . . Next went to one of the Local breweries who store their suds in caves in the hills down underneath us; after seeing about 57 varieties of officials and explaining to each one, they finally came up with this—So sorry, but they were afraid the aroma from the peonies might affect the taste of the stuff that made Milwaukee famous. . . . Can you beat it?

R. W. Jones
731 Delaware Ave., St. Paul 7, Minn.

Fall Care of Peonies

THESE HARDY PLANTS LOVE LIFE ON THE FARM AND REQUIRE LITTLE CARE

None of the hardy flowers is better adapted to the farm garden than the peony. It is low in cost, easy to grow, and it is so hardy it will survive the most rigorous winters.

As a matter of fact, peonies are hard to kill. Plants have been known to last through several generations, and often, by some deserted old home place they may still be seen blooming long after the occupants have scattered far and wide.

The fall—particularly September and October—is the best time for setting out roots. Spring planting has been tried with considerable success, but fall has an added advantage, since root growth is not disturbed before blooming.

The peony distinctly prefers the sun. It may grow sometimes in partial shade, but ordinarily such places are not advised. Also disapproved is planting under heavy trees or against house walls.

If the soil is rich and deep, little fertilization will be needed. If it is poor and shallow, however, the plants will benefit by enrichment. Some well-rotted manure can be used. But caution should be exercised about too free use of manure, as contact with the roots may cause scabbiness or black-rot.

For the planting, large-size holes should be dug, 30 inches wide and 24 inches deep, as the roots spread both outward and downward. The dimensions may be lessened with a very small root and increased with a large one, the whole idea being to plant the peony so it is not "crammed" in its hole, but has plenty of growing room.

Each hole should be partially filled with the best earth obtainable, and in this the roots should be set, so that the buds (or "eyes") are about two inches below the ground. (Continued to top of page 35)

Effect of 2-4-D on Peonies

James Mason, *Chicago, Ill.*

In the June 1948 bulletin you quote Mr. T. R. Mysyk of Illinois on the effect of 2-4-D on a single peony plant.

My peonies are planted on a "vacant lot" and one plant of *Jeanne Lapandry* is beyond the garden on a mound, where weeds thrive. A neighbor who can afford to use 2-4-D in quantity, set out to experiment with it in the "vacant lot." The one peony plant on the mound got a dose of 2-4-D, (what strength, I do not know) and quickly the foliage looked as if the plant was very thirsty; later recovering a good deal. Next Spring, as the buds developed, I thought the plant had been stimulated. Unfortunately, the buds all blasted and the plant died during July.

To me it was a new kind of behavior. I would have dismissed it as an accidental death, except that another plant of *Jeanne Lapandry* in the main peony patch where no 2-4-D was used, bloomed and remained healthy.

Until the University of Illinois says I can safely use 2-4-D on peonies, I shall refuse to do so. I have ruined iris plants by spraying with a single application of the chemical. Glads are a different story.

As you cover the roots with soil, firm it gently around them with your fingers, so as to make the plant secure in its foundation. Never plant the buds deeper than two and one-half inches. If you do, you may wonder why the buds are so slow in getting started in the spring.

Later care of the peony is simple. For the first winter, a light covering of mulch or dry leaves should be applied, but this is not necessary in later years. Peonies are among the hardiest flowers that grow in North America.

In May, commercial growers disbud their plants, leaving only one or two blossoms to a stem. Private growers may wish to do this, too, but with a variety like *Le Cygne*, where the blooms are in clusters, it is, of course, impracticable.

In cutting flowers, do not cut too low. Leave two or thee leaves at the bottom of the stem, as the leaves are necessary for root growth and to form buds for flower formation the succeeding year.

Anybody who knows anything about peonies must be aware of how enormous these plants can grow in a matter of a dozen or more years. If you are naturally generous, perhaps you will wish to share some of this beauty with neighbors. The question is: How does one divide peonies?

Use a spade and dig deeply all around the roots. Then the plant can, by gentle prying, be lifted out of the ground. Very gently, the dirt can be shaken off and the ends of the very long roots cut off. With the use of a sharp knife, you can then divide your roots.

Care must be taken that each division has at least two or three vigorous-looking buds, along with a healthy root growth. These sections will all make new peony plants.

Wallace's Farmer—Oct. 18, 1947

A Correction

Mr. W. F. Christman
Northbrook, Ill.

Dear Mr. Christman:

Mr. Louis Smirnow has sent me catalog No. 12 of Ruitton et Riviere. They give their address as 90 rue Coste, Caluire (Rhone) France. I notice that in the Tree Peony Check List, bulletin 95, September 1944, I gave this address as Cuire des Lyons, which must have been a typographical error.

The catalog is not dated and I have written to ask the date of it. In it are a number of Tree Peonies with slightly different spellings from those of our check list and the chances are that we are more correct than they are on most of these and, as you know, many different spellings are interchangeable.

In addition to these the following varieties are mentioned which we cannot identify from the check list and they may be additional varieties. I am sending this to you so you may have it as a matter of record if you should want it in the future.

Funiniano-yuki: salmon rose passing to white.
Gengioraku: very large, semi- double, pure white.
Nagasaki: many little white flowers.
Shivunanodori: large flowers, violet.
Yeso: red and purple.

Yours sincerely,
John C. Wister, *Director*
Swarthmore, Pa.

P.S. Also listed: *Amateur Forest (Riviere):* large, semi-double, rose and violet streaked with white.

Southern Indiana Peony Season of 1947

The peony season for 1947 was about three weeks later than usual, due to a cold and very wet spring, and was the latest in over 30 years.

Usually in Southern Indiana we make our first cutting of bloom for the market between May 10 and 15. In 1947 it was May 28th before we were able to make a cutting.

The earliest bloom, as is sometimes the case, was not up to the usual standard for the variety. Later, some especially fine *Le Cygne* came on and performed the best it has during the 25 years I have been growing it.

Among the varieties coming up to their usual standard rating might be mentioned:

Therese	*Jean Cooperman*	*Victory Chateau Thierry*
Richard Carvel	*Souv. de Louis Bigot*	*Mme. Jules Dessert*
Albert Crousse	*Ella Christiansen*	*Mrs. Frank Beach*
James Kelway	*Philippe Rivoire*	*Martha Bulloch*
Mrs. Edw. Harding	*Mad. Calot*	*Mrs. John M. Kleitsch*
John M. Good	*Reine Hortense*	*Mrs. A. M. Brand*
Mrs. Deane Funk	*Eugenie Verdier*	*Marie Crousse*
Jubilee	*Phyllis Kelway*	*Sarah Bernhardt*
Walter Faxon	*Laura Dessert*	*Claire Dubois*
Mons Martin Cahuzac	*Laverne Christman*	*Hazel Kinney*
Mons. Jules Elie	*Felix Crousse*	*Myrtle Gentry*
Mabel Franklin	*Mrs. Romaine B. Ware*	*Hansina Brand*
Mrs. Bryce Fountaine	*Mary Brand*	
Phoebe Cary	*Minnie Shaylor*	

Among the varieties that sometimes do not open well in Southern Indiana are the following that did quite well this year:

Solange	*Denise*	*Grandiflora*
President Wilson	*Auguste Dessert*	*Mme Emile Lemoine*

One variety that has always done well for the many years it has been in in my garden is *Blanche King*, which did even better than its usual fine performance. Its title to "Queen" of the American Peony Society Show, indicates its fine qualities.

Kelway's Glorious that has for over 20 years been my finest white slipped from its pedestal by dropping to perhaps to a 9.0 rating. But it was all of that and a fine bloom.

The season was hurried out in the latter part with hot weather.

After the season was almost over in Southern Indiana, I was anxious to see the bloom in my La Grange, Illinois Garden near Chicago. So on June 17th we arrived and the first bloom were just opening.

The season there had also been wet and cold, and the ground was wet even where tile had been laid to prepare the plants for the finest blooms. The greatest part of the bloom were fine, but the average rating was lowered by the few that did not develop well.

During the blooming season it was my privilege to see, in addition to my own bloom, on June 22, the fine Peony Garden of R. A. Napier in Blue Island, Ill. He had "Open House" in his garden, which, I understand he generously gives annually to his neighbors and friends to enjoy the fine bloom and his generous hospitality.

After meeting him and his family, the visit in the Garden was enjoyed with Geo. W. Peyton, who discussed with me the qualities of some of his fine and

newer varieties, and such items as are always of interest to people that are interested in Peonies.

On the morning of June 24th we visited Mr. Art Murawska and the River Drive Peony Gardens, in River Grove, Ill., where we saw and enjoyed more fine bloom. Mr. Murawska accompanied me home where we inspected our garden. Later in the day, Brother Charles of the Mission Gardens, of Techny, Ill., and Mr. W. F. Christman, Secretary of the American Peony Society, visited me in our garden.

The good fellowship with these Peony Experts, and the exchange of ideas and experiences with them was one of the most wholesome, interesting and pleasant experiences of the season.

The visits to the various gardens helped me to understand the influence of the different soils, slopes of the ground and drainage, on the growth of peonies. One garden was clay soil, sloping to the south, another was in sandy loam, the others were in deep black loam. Each has its good points.

The blooming season was practically over by July 12th, and after reveling in the beauties of the bloom in the gardens visited and in my own two gardens for about six weeks, we returned to our home in Southern Indiana, where we found the grain harvest was practically over. And for us the peony blooming season for 1947 was at an end.

Fred E. Winslow, Salem, Indiana

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First Annual Sussex County, N. J. Peony Show

Margaret McCutcheon, *Newton, N. J.*

The first Sussex County Peony Show was held on June 19th and 20th at the Lake Mohawk Country Club.

Planning and work for the show was started early in the winter when a small group of interested people met at Madylone, the home of Neal R. vanLoon. The group, under the guidance of Mr. vanLoon, made plans and divided the preliminary work. Among the jobs to be done were:

Getting prizes (including the rosettes for the King and Queen of the Show).
Locating a satisfactory place to hold the show.
Getting posters and signs.
Obtaining entry cards and seals.
Getting covers for the display tables.
Securing containers for the specimen class entries.

The rosettes were made of satin ribbon by one of the members of the group. The lettering on the rosettes, the posters and signs was done in the Newton High School Art Department.

We used milk bottles covered with sheets of green construction paper as containers for the entries in the specimen classes. The bottles were loaned by one of Sussex County's milk producers.

Prizes, in general, were donated by individuals; but the Sussex County Development Commission offered a prize for the best collection of five varieties of peonies—Sterling Silver Candlesticks.

There were twenty-three exhibitors showing one hundred fifty-two entries in sixteen classes. About three hundred people visited the show.

It cost about $165.00 to run this first show and we were able to cover the cost, with a small balance, with collections at the door and contributions.

The theme of the show was "Just for Beauty." Mr. vanLoon did not compete in the show but he exhibited hundreds of blooms which added much to the beauty of the show.