

Ornamental Shrubbery
by
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Ornamental Shrubbery.

Notes on propagation and appearance
of some paying species.

A knowledge of ornamental plants is desired by all. If we see a beautiful tree or a pretty flower, our first thought is, what is it? and our next action is to go to the plant, examine its foliage, smell of its flowers, study their structure, and in every way impress upon the mind all the characteristics of the plant.

If we are only a casual observer our interest in the plant will end there; but if we have become a student of "Ornamental planting" we not only examine the plant with regard to its appearance at that particular time, but study its other relations. If our mind runs into technical lines we examine it for botanical characteristics which will distinguish it from the surrounding plants, or we find in it peculiar features in its relations to the soil and climate, or we may notice variations as

to the time of its coming into leaf or into blossom. If our mind is given to dwelling upon the aesthetic we will see in every plant a harmony which appeals to man's finer nature. The beauty of its flowers and leaves, the richness and delicacy of their coloring, the symmetry of their parts, and the combination of the whole into a pleasing relation, all arouse in us a feeling of the sublime.

Every part taken alone presents to such a mind a sense of being complete and pleasing or of being deficient and displeasing. Such a mind sees the relation of such a plant to its surrounding plants.

It recognizes whether the tree is set in such a manner as to bring out its natural beauty and to give the best effect or whether it is surrounded by plants which detract from its natural beauty. If the mind is a master, it not only sees the harmony or lack of harmony in arrangement, but goes further and shows how the beauty can be enhanced or the objectionable features removed and other

more desirable put into their places. The former mind is necessary to the "Botanist" the latter must belong to the "Landscape Gardener". Their territories overlap and much knowledge of plants must be in the possession of both, but the different use to which this knowledge is put constitutes the chief difference in the two professions.

Laboratory methods of study have become the chief source of scientific knowledge. In every branch of learning the best results are obtained where the students handle the specimens under investigation and by daily contact and observation become familiar with their valuable properties. This is true in "Landscape Gardening" as in other branches. Daily contact with trees, shrubs, and flowers gives us a knowledge that we can secure in no other way. We may learn in the class room or study, that a plant has certain characteristics, certain shaped branches, particular colored bark, a certain shaped leaf of a given size and set in a given

position, flowers of a given color having so many sepals, petals, and stamens and a certain shaped pistil surrounded by anthers placed in such a position, but if this is all we learn, the mind becomes simply a store house for these dry facts. On the other hand if while we are learning the foregoing facts about the plant, we have the specimen before us we are able to associate every particular feature of the description with its actual position upon the living plant and will thus enable the mind to grasp fuller relations and to retain them as a complete whole for future use. This method has been pursued in our study of shrubbery for this work. The specimens described have been under our constant observation and any discrepancy that may be discovered can be charged to lack of development in the observer rather than to any freak in the plant. Our observations have been made upon the shrubbery growing upon the grounds

of the Kansas State Agricultural College at Manhattan, Kansas and any facts presented will be vouched for in that region only. Any change in soil, location, or climate will necessarily produce a corresponding change in the plant growth.

Most of the plants are growing upon a stiff clayey soil, the surface of which is from gently sloping to steep, so that storm water drains off rapidly. The plants are generally watered freely when first set out, after which they must depend upon rainfall for their water supply. Under this treatment plants that do well here will do well anywhere under similar conditions of soil, temperature, and moisture, while better conditions may give better results.

We consider a variety as 'paying' when with reasonable care and attention the plant lives, makes a fair growth, and unless subjected to unusually severe or changeable weather, develops its characteristic flowers and foliage for a considerable number of years in succession.

If a plant does not fulfill these conditions we do not consider its cultivation as a paying investment and the sooner such cultivation is discontinued the better.

It is a settled fact that ornamental planting in Kansas has not been a paying investment, viewed from a financial stand point; but when we consider the pleasure derived from the homes where such work has been carried on, we cannot help believing that the outlay has been partially repaid. Should the home be placed upon the market, the price it would sell for would be in advance of one not so improved; while so long as it remains a home, money cannot measure its benefits to those who grow up surrounded by the beauty, fragrance, and exalting influence of trees, shrubs, and flowers.

There are three general methods of propagation: - seeds, cuttings, and graftings. Seeds are used mostly for flowers and trees; cuttings for ornamental shrubbery, and grafting for trees whose fruit it is

desired to keep true to the variety.
Both green and ripe-wood cuttings are made. The former by cuttings made during the growing season and the latter by setting them in green-houses or propagating pits during the winter months. This has been the mode of treatment given the cuttings upon which our observations have been made. The mature wood of the last years growth was taken the first weeks of January. It was cut into lengths of from 6 to 8 inches and set in a bed of sand 6 to 8 inches deep, leaving about two inches of the cutting exposed. The sand was firmly packed about the cuttings and they were well watered. The propagating pit was heated by the hot-water system and the temperature was kept from 50° — 70° . There was considerable variation in the length of time in which the cuttings developed their buds, calluses, and roots, but they all go through practically the same stages. In most cuttings the buds show the first growth.

In some of the less woody stems the buds show a swelling within a week, while in others of the more woody varieties the buds did not swell before the fourth or fifth week. The subsequent growth is correspondingly rapid. There is a corresponding difference in the growth of a callus. A callus is a white, spongy growth which forms around the lower end of the cutting just over the Cambium. Most cuttings develop a moderate sized callus before the roots start; but some do not develop a callus. Even great difference is noticed with the root growth. Here as with the preceding the less woody cuttings develop roots in less time than do the more woody varieties. Some had roots from one to three inches long at the end of the third week, while others showed roots less than one inch long at the end of the sixth week. After buds, calluses, and roots have been formed, the growth is more even depending upon the characteristics of the variety. By the end

of three months, all the prominent characteristics were visible and further observation only verified the conclusions derived from our earlier study.

During the latter part of April, the plants were carefully removed from the sand and potted. This was for the purpose of developing better root growth. The plants were taken from the propagating-pit and set out in nursery rows during the latter part of June. The following summer was medium to wet and the stock made a good growth. This stock is now two years old and from them we have taken our notes for two year old plants.

In making our selections for description, we have kept two points in view. First to select those plants which by making a vigorous growth under their present conditions have shown themselves hardy, and second to select, to select those plants which when in blossom present a very showy appearance. We think these two, the prime requisites for a desirable shrub;

although their appearance at the different seasons of the year are to be taken into consideration when we are making a selection. Most shrubs make their best appearance as spring effect; although others because of their foliage produce good summer effects as well. Of the different season effects, the spring depends upon the flowers and foliage combined; the summer almost wholly upon the leaves, while a greater part of the autumn depends upon the coloring produced by the frost; and the winter effect must be produced by the branches alone. The early or late habit of many shrubs determines whether it will blossom in late spring or in early summer and in which season the best effect will be produced. In making selections for planting all the different effects must be taken into consideration and we must then choose so as to give the best appearance throughout the different seasons. It is difficult sometimes to reconcile the

different effects produced by the same plant; but if any effects are especially undesirable the plant should be discarded.

In our descriptions, we shall confine ourselves to all the species of a family, and all the families of an order before proceeding to the next; because we think that it will enable us to follow them more closely. If we should arrange them with regard to their desirability it should be arranged differently. In a few cases only will we give varieties; because we consider that their desirable characteristics are so nearly like other species that to note them would prove tiresome rather than instructive.

The botanical names will be given for the use of those who have studied the plants in that way and the common names also will be given, whenever one is known, for the use of those who never have studied plants under botanical classification.

We will take up first a couple of families under the Rosaceae, and the first should naturally be the Rose.

The hybrids are so numerous and so much better than the regular species that very few of the latter are cultivated for the market.

Rosa multiflora, is a very hardy species, with long pendulous branches, deep green bark, and gives a bountiful production of deep red roses. The leaves are dark green and the plant grows rapidly; branches fine to six feet long at two years old. Flowers from May 5-15.

Rosa sativara, a good growing variety long branches not so vigorous as the preceding. Leaves dark green, flowers rose colored, quite prolific. In blossom May 10-20.

Rosa rugosa (Japanese rose) a vigorous grower, with thorny stems, dark-green, strongly veined, leathery leaves and large clusters of large fragrant rose colored or white single flowers.

Of the Hybrids one of the most beautiful is the 'General Jacqueminot', which has deep green foliage, medium in size, with a very large, deep red colored rose.

There are several species of moss roses very desirable, good color and their beauty is very much enhanced by the mossy appearance of the under side of the sepals.

Spiraea Is quite an extensive family of woody shrubs remarkable for their flowers. There is considerable variation in the size and color. The first three are from two and a half to four ft. in height and can be used in connection with flowers.

Spiraea Billardii (white), is a medium growing shrub, slightly larger than the others, the bark is brownish, flowers white with the stamens too prominent to give the best effect.

Spiraea Billardii. (Pink), like the preceding except the flowers are a light pink color.

Spiraea Bumaldi is a low growing species very bushy, dark green foliage very dense. Flowers different shades of pink. In blossom May 25-30.

The following are the large growing species from five to seven feet in height. They grow up and then droop gracefully. They present a very fine appearance if planted in rows.

Spiraea Purvesiana, we consider, has the finest flowers of any. They are pure white. The clusters being from one half to three quarters of an inch broad and thickly set upon the branches. Flowers from May 1-5. Foliage small and scant. This shrub is but half hardy.

Spirea trilobata (Van Houttei) is a close second for beauty of flowers and leads for hardiness. Branches especially graceful and when in blossom is a perfect beauty. Flowers much like the preceding but not so large nor compact. In blossom from May 5-15.

Spirea prunifolia (Bridal wreath) is smaller than the two previous; about 3 feet high; flowers small, white and does not make the good appearance that the other two do. It is much earlier and for this reason can be used to good advantage. Flowers April 10-15.

Spirea Aurea (*Neillia opulifolia*) variously classified. This shrub presents a striking appearance both for its rough, gray colored branches and for its golden colored foliage.

The branches give a good winter effect and the foliage presents a striking contrast upon almost any kind of a dark background. The flowers are small, white and because of prominent stamens are very unsightly.

Cyrus Japonica (Burning bush) is another desirable species of the order Rosaceae. The branches are a deep green, vigorous and upright. Foliage a deep, dark green and plentiful.

The flowers are the striking feature. They are a brilliant scarlet in color, large in size, and thickly set along the whole length of the branches. Coming out at about the time that the leaves are starting this shrub is very conspicuous. Flowers April 10-15. There are white and variegated varieties.

The order Leguminosae is characterized by its deep green foliage, opposite leaves, and its green stems. One of the small growing species, not for its green color is *Cytisus sepium*. is a semi woody species dense foliage, yellow stems, having yellowish flowers with a reddish tinge upon the terminals. Flowers late from May 15-25. *Wisteria sinensis*, is a climber and should be set adjoining a building or trellis. The foliage is dense, leaves large, and the flowers quite attractive.

Baragana arborescens Chinese pea tree has quite woody stems and if properly pruned will make a tree. Foliage very dense and of a dark green. Flowers a deep yellow and have a peculiar hooked appearance. Flowers profusely and well down upon branches, May 5-10.

Colutia arborescens is much like the preceding except the foliage is lighter in color, not so dense and the flowers are lighter in color, more profuse and come flower a month later.

Amorpha fruticosa has the characteristic leaves and stems. Vigorous grower, stems six feet long at two years old. Flowers in catkins set upon terminals. Very striking being a deep purple tipped with gold.

We will gain only one family under the order Saxifragaceae this will be the *Philadelphus*. They are woody stemmed, gray barked, vigorous growing shrubs which have good foliage and flower well. At two years old they are from three to five feet in height. The flowers are a rich white, yellow inside and of good size. There are several varieties, *coronaria*, *grandiflora*, and *tomentosus* which are very much alike. This shrub looks well alone.

The order Cornaceae will furnish two species. *Cornus sericea* and *C. Sibirica*. In many respects they are much alike. Flowers are white and in large racemes. *Sibirica* has deep red bark which is conspicuous. Both species do well and can be transplanted readily.

The order Caprifoliaceae will furnish several shrubs. We will consider first the *Viburnum opulus sterilis* (Snow ball). This is a vigorous grower, upright stems, light gray bark, flowers pedicelled so as to form a ball. The plant flowers profusely and make a good show. Shows well set alone or facing a group. Fl. May 1-10

The Honeysuckle family furnishes many desirable shrubs. They are variously classified, but we will divide them into upright and twining according to their habit of growth. We will take first the *Lonicera ciliata* (Fly-honeysuckle) is a vigorous grower, branches straggling, foliage medium size and color. Flowers greenish-yellow lobes nearly equal. Fl. May 5:

Lonicera xylosteum is a vigorous grower much like the preceding, bark gray, foliage medium in size and color. The branches spread well and a single specimen is from ten to twelve feet across. The flowers are white but turn yellow after being out a few days.

Lonicera tartarica (grandiflora) is the king of the woody honeysuckles. Foliage is a medium green, branches stand up well, and the flowers are very striking, being a bright pink, but turn to a light rose color. They change

from bright red to almost white before they fall. There is a flower in the axil of almost every leaf which gives it a very showy appearance. Very desirable. May 1-15.

Lonicera fragrantissima has gray, slightly spreading branches, reddish gray stems, flowers small, very fragrant, yellowish white, and come out before the leaves. Foliage dense, deep green, leaves large and considerably thickened.

Lonicera orientalis light gray bark, medium green foliage, plant inclined to be slightly drooping at the top. Flowers in pairs, light pink exterior, pure white interior. Petals grow together for most of their length.

The following *Lonicera* have a twining habit and should be supported.

Lonicera sempervirens. Light gray bark, dark green foliage, large leaves quite thick, much lighter gray upon the under side. Flowers bright red outside, deep red inside.

Calyx tube 1-1½ inches long. Vigorous grower May 10-30.

Lonicera Halliana is much like the preceding except the flowers are white when first out later they turn to a dull yellow. Flowers on terminal leaves grow together about the stem May 5-10.

Lonicera varonish is much like the preceding except the flowers are upon the upper side of a double leaf. Flowers in two whorls, the upper is pinkish yellow, and the lower is pink. This plant flowers from May 5-10.

Of the last order Oleaceae we give but a few of the more prominent specimens.

The *Forsythias* (Golden Bells) have long woody stems, slightly pendulous, flowers come out before the leaves; quite profuse and showy. They are a rich yellow in color April 1-6.

Ligustrums (Privet) are of use for wind-breaks as hedges; deep green foliage flowers quite prominent. *Syringas* (Lilacs) are noted for their fragrant blossoms, medium foliage and vigorous growth. May be set singly or in rows. May 1-10.

We have been able to present only a few of the more prominent characteristics of these more hardy species. A careful study of their habits will enable a person to plan for the planting of a small grounds with good effect. In this way only can we hope to produce good results.