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# CAMELLIAS FOR THE YARD

*By*

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## SUMMARY

1. Get wanted varieties even if the initial cost is somewhat high. Camellias can live and give satisfaction for a long time and their potential value increases rather rapidly.
2. Plant in good location where there is good drainage and, if possible, partial shade.
3. Add organic matter to the soil and make the soil acid with aluminum sulphate.
4. Set the plant no deeper than it was in the nursery row. Do not plant too deep, nor on a high mound.
5. Apply fertilizer in late winter.
6. Mulch the plants, especially when they are small.
7. Water thoroughly at about weekly intervals during periods of drouth. This is especially important the first two years after transplanting.
8. Spray to control insects and diseases.

# CAMELLIAS FOR THE YARD

By

W. D. KIMBROUGH AND C. E. SMITH

Interest in camellias has increased greatly in the last few years. Indications are that more and more people, especially men, will be interested in these plants. Consequently, there is considerable demand for information on how to take care of the plants. Many camellia enthusiasts have had little experience or knowledge concerning plant growth and as camellia plants are relatively expensive, it seems advisable to give some information that may be helpful. There are many notions about the care that camellias should be given and it is difficult for a beginner to know just what advice to take. The material here presented is not based on experimental evidence but on experience, observations, and other available information. It may not be of much value to the experienced camellia grower, but it should be helpful to those new at the game and will prevent many costly mistakes.

## Varieties

There are many camellia varieties and the nomenclature is considerably mixed at the present time. Many varieties have more than one name and different kinds may be called the same variety. This causes some confusion when it comes to deciding what varieties to plant. It is best to see a variety in bloom to be sure that it will suit an individual taste, for there are many types and colors of camellias and considerable difference of opinion as to which are best. In the average yard there are locations for only a limited number of plants and the kinds that are to be set out should be selected with care. A poor type will take up space that could be occupied by a more desirable one. A camellia fancier would do well to take time and carefully consider varieties and maybe go to more expense at the start and get the varieties liked best instead of wasting space and time on varieties that are inferior. If a camellia plant is in a proper location and receives proper attention it should easily out live the person planting it. Plants over a hundred years old are not uncommon.

Varieties vary somewhat in the type of growth that they make. Some, such as *Ruba Virginalis*, *Enrico Bettoni*, *Prof. Sargent*, and *Prince Eugene Napoleon*, tend to make an upright growth and others, including *Monarch*, *Gov. Mouton*, *Victor Emmanuel*, and *Bealei Rosea*, tend to be of a spreading growth type. Still others, as *Pink Perfection* and *Alba Plena*, are intermediate. The type of growth should be considered in locating the place to set a plant. Some varieties grow more rapidly than others. *Daikagura*, *Glen 40*, and *Lady Hume's Blush* are examples of rather slow growers. Varieties that bloom profusely when quite small, such as *Pink Perfection*, do not grow as fast

as those varieties that are shy bloomers when young. Also, some varieties will not be satisfactory because the blooms will often not open as they should. *Mathotiana Alba* is an example of this type and planting in the shade is best for this variety. Prof. Sargent does well when grown in full sunlight. Some varieties stand the cold better than others and still produce uninjured blooms. Gov. Mouton, Herme, and Prof. Sargent are examples of this type. The double imbricated Pink Perfection and *Alba Plena* type flowers seem to be easily injured in the bud stage and, though they may bloom fairly well, will have brown centers when fully open if they have been injured by cold. The Purple Dawn blooms seem to be especially susceptible to cold damage.

Camellia varieties vary to some extent in the length of the blossoming period. Some open many flowers at one time, while others produce a scattering of blooms over a long period. Camellia blooms that open during warm weather are not apt to be very satisfactory. When several varieties are to be planted it would be well to get varieties that would extend the blooming season over a long period. *Diakagura* is a very early blooming variety. Blooms of *Alba Plena*, Pink Perfection, and Purple Dawn start to open early. Prof. Sargent, Prince Eugene Napoleon, Gov. Mouton, Herme, and Monarch are examples of mid-season varieties. Victor Emmanuel, Bealei Rosea, *Mathotiana Alba*, and Sarah Frost are examples of late varieties. Empress of India is an example of a very late type.

The price of a camellia variety is not necessarily an indication of its desirability, but is more often an indication of the ease of propagation or the supply of the stocks on hand. The better varieties will in general be somewhat higher, however, than inferior kinds. There is a tendency for camellia fanciers to accumulate a large number of varieties. That is all right for those with large estates, but for the average yard it is impossible to have all the kinds that may be desired. The urge, however, to get an unreasonable number of varieties is quite strong and those just starting to plant camellias are warned against it.

No attempt will be made to tell anyone what variety should be planted because there is too much individual preference as to likes and dislikes. Some varieties are especially good for corsages and house decorations while others are quite showy on the bushes. Some of the varieties that will probably be found to be satisfactory are as follows: Pink Perfection, *Alba Plena*, Purple Dawn, Gov. Mouton, Prince Eugene Napoleon, Debutante, Prof. C. S. Sargent, Chandleri Elegans, Col. Firey, C. M. Hovey, Laurel Leaf, and Bealei Rosea. The following varieties make a good display on the bush: Herme, Browns Red, Jarvis Red, Gloire de Nantes, *Leucantha*, *Rubra Virginalis*, and Empress. There are many other excellent varieties. No attempt will be made to describe varieties for descriptions can be found in nursery catalogues. Disappointment may follow the selection of varieties from descriptions only.

## Planting

It has been said that camellias can be transplanted at any time of the year and this is probably true if the plant is moved with a good ball of soil and is properly handled. Best results, for the average person, will be obtained, however, if plants are set out during the winter or early spring. Roots may continue to grow during the winter and plants that are set out early are likely to be better established when growth starts than those set out later. It is best to select the places where the plants are to be set out well in advance of the time of planting. The hole should be dug and some decayed organic matter and aluminum sulphate worked into the soil as the hole is refilled. A little superphosphate put at the bottom of the hole should also be beneficial. If the holes are prepared in advance, transplanting can be done better and more easily. A plant should be set out so that when the soil settles it will be no deeper in the soil than it was in the nursery row. It is very important not to set the plants out too deep. There is little doubt that many excellent camellia plants have been lost simply because those setting them out have tried to do too good a job, as they thought, and have set the plants too deep. Usually such plants will live for awhile but do not grow normally and slowly die. Because of this fact some go to the other extreme and recommend that camellias be set on raised mounds. There is no advantage to this procedure on well drained soil and it can easily be carried to an extreme with harmful results. There is some advantage in planting on a mound or ridge if drainage is not too good. Burlap does not need to be removed from balled plants, but it can be if there is no danger of the ball of soil breaking. It is best not to transplant when the soil is muddy, but in any case the plants should be thoroughly watered after they are transplanted. Smaller plants are sometimes shipped barerooted. These plants may have more roots than balled and burlapped ones and are probably satisfactory if handled properly. They should be planted in December, if possible. If camellia plants are large enough, they should be set out in the place where they are to be left permanently, for moving the plants is not beneficial unless they are moved to a more favorable location.

Special care should be taken when small plants are transplanted to a permanent location to allow enough space between plants and between plants and buildings. Camellia plants should live a long time and this means that they will need space in which to grow. They should not be planted less than six feet apart, or from buildings, if they are expected to be left in one place for any length of time. Fast growing, spreading kinds have crowded at Baton Rouge in eight years when grown from 18 inch plants, set six feet apart.

## Location

Good drainage is the first essential of a good location. If the soil is not well drained, the growing of camellias in it will not be satisfactory.

When the drainage is only fairly good the plants may live and grow very well for a time, but in very wet seasons are very likely to die. Also in periods of severe drouth, plants that are grown in soil that is not well drained are likely to suffer because they will have shallow root systems that can not supply the water needed. Setting plants on mounds may be of some help when drainage is not what it should be. This is more or less a temporary help and will not take the place of good drainage. Many excellent camellia plants die every year because they are planted in poorly drained soil.

If hardpan, an impervious layer of soil, occurs near the surface, normal root growth will be interfered with and plants will suffer during periods of drouth. Where hardpan occurs is not a good location for camellias.

Partial shade is essential for small camellia plants and some shade is beneficial to larger ones. Plants less than 18 inches tall should receive protection from the sun. They may be grown in a lath house, or on the shady side of a house, or given special protection if planted in the open where they are expected to grow permanently. Plants grown in partial shade may be expected to thrive better than those in full sun. Those grown in dense shade, however, should not be expected to make normal growth or bloom profusely.

As camellias bloom at a time when there may be injury from cold, locations that give some protection from cold are desirable.

### Soil

Camellias will grow on a wide range of soils but they are not well adapted to very heavy types. In any case a high percentage of organic matter should be present. This may be supplied in the form of leaf or woods mold, or from well decomposed manure to which no lime or other chemical has been added. Cow manure is preferable to other manures. Usually the decaying mulch will supply sufficient organic matter after plants are established. In some localities the soil is of such a heavy type that a specially prepared soil in which to set out camellia plants is used. The soil is removed from a large size hole and a mixture is made of soil, organic matter, sand, and peat moss or similiar material. The composition of the mixture may vary to some extent. A mixture of  $\frac{1}{2}$  soil,  $\frac{1}{4}$  leaf mold, and  $\frac{1}{4}$  peat moss has been found to be satisfactory in some cases. Soils that contain considerable amounts of undecayed organic matter are likely to settle and due allowance for this should be made at planting time. Where specially mixed soil in which to plant camellias has to be used, the expense of planting is increased considerably and the plants are not likely to thrive over as extended a period of time as where suitable soil is found naturally. Instead of using an artificial mixture of soil, which may settle appreciably, it would be better to use hauled-in suitable soil if this can be done. The size

of the hole into which prepared or hauled-in soil is placed would, of course, affect the duration of satisfactory growth.

A rather acid soil is required for camellias. The degree of acidity should range from pH 4.5 to 5.5. The degree of acidity is reflected somewhat in the type of growth that is made. It may also affect the intensity of the color of the flowers. In very acid soils the plants tend to be more compact and the rate of growth is slower than it is on plants in less acid soils. If soils are not sufficiently acid the plants are unhealthy, the growth is slow, and the leaves do not have a healthy green color. Unless this condition is corrected the plants will die. If the soil is not as acid as it should be, the best method of increasing acidity is by the application of aluminum sulphate. This may be applied at rates not exceeding  $\frac{1}{2}$  pound per square yard of surface. The rate of  $\frac{1}{4}$  pound per square yard should usually be enough at a time. If applied before the plants are set out, it should be well mixed with the soil. After the plants are established it may be scattered over the surface of the soil around the plant. A good watering after the application of aluminum sulphate will hasten its effectiveness. If plants are unhealthy due to the pH of the soil being too high, applications of aluminum sulphate should be made at six week intervals until a marked improvement is shown in their appearance. The proper use of aluminum sulphate is often of paramount importance in obtaining satisfactory growth of plants. In many cases this material should be applied every year and sometimes twice a year as a normal practice. It is not a fertilizer, but may be mixed and applied with fertilizer. If bought in hundred pound lots, its cost is not excessive. The soil can be made too acid for camellias, if an excessive amount of acid forming material is applied.

Flowers of sulphur may be used for acidifying the soil. It is probably not as quickly effective as aluminum sulphate and must be used more carefully for one pound of sulphur will make approximately three times as much acid in the soil as a pound of aluminum sulphate.

There may be places in a yard, especially around buildings, where lime was spilled when the house was built. These places must receive special attention if camellias are to be grown there. The lime should be removed if possible and acid forming material applied.

### Fertilizer

Certain elements are essential for plant growth. The plant obtains most of these elements from the soil and they must all be present in an available form in sufficient quantity if best growth is to be obtained. If a soil can meet these requirements, no fertilizer is necessary. Unfortunately, especially in the South, there is usually a deficiency of one or more of these essential elements. They are usually added in some form of fertilizer. To the inexperienced, the application of fertilizer is a rather mysterious and difficult procedure. Actually, with a little



practice, it is very simple. Most commercial mixed fertilizers, such as 4-12-4 or 5-10-5, are rather concentrated materials and can be very injurious to plants if applied in too large amounts. The beginner should not apply the ordinary mixed fertilizers at rates exceeding  $\frac{1}{2}$  pound to the square yard and it should be well scattered over the surface of the soil. It should be applied under the mulch and may be worked lightly into the soil. Watering after an application of fertilizer makes it more readily effective and also lessens the chances of injury. The residual effect on the soil of the fertilizer used should be acid rather than alkaline. This means that fertilizers that have dolomitic limestone added as a filler should preferably not be used on camellias. A fertilizer that is neutral in reaction will tend to reduce the acidity of an acid soil. Cottonseed meal is often used and recommended as a fertilizer for camellias. It is a little safer for the beginner to use as it is an organic form and not as likely to be used in amounts that might be injurious. It, however, is considered mainly to be a source of nitrogen and, though it does contain other needed elements in relatively small amounts, it may not supply them in sufficient quantity. The composition of cottonseed meal is somewhat variable, but the analysis of a fertilizer made of 6 parts of cottonseed meal, 3 parts of 18 per cent superphosphate, and 1 part of muriate or sulphate of potash would be approximately 4-8-6. This is suitable for use on camellias and is much better than using cottonseed meal alone. If an inorganic source of nitrogen is used on camellias, sulphate of ammonia is the best one to use as it increases the acid content of the soil. Not more than 1/10 pound of ammonium sulphate per square yard should be applied at one time. This should not be confused with aluminum sulphate.

The best time to apply fertilizer to camellias is in the late winter or early spring. It should be applied far enough in advance of the first growth period to be utilized at that time. At this time growth is general over the bush, while later growths are usually just from some of the terminal buds. Except on very poor soils one fertilizer application per year should be sufficient. On very poor soil another application in the summer may be beneficial. Fertilizer should not be applied late enough in the year to stimulate growth late in the season, for such growth is very likely to be injured by cold. Late growth often can not be avoided, but nothing should be done to encourage it.

Camellias are generally thought to be plants that grow very slowly and this, no doubt, is often true. Many varieties of camellias in favorable conditions will, however, with proper care make a very rapid growth. Plants in good locations around Baton Rouge have grown from 18 inch plants to ones 6 to 8 feet tall in eight years. The Alba Plena variety which is said to make a slow growth, has grown very rapidly under favorable conditions. In fact it may grow so late in the season that it is susceptible to cold injury.

## Watering

Though good drainage is essential for the well being of camellia plants, an abundance of water is also necessary. It is especially important that the plants must not suffer from insufficient water for the first two years after they are transplanted. The second year is especially important for that is when they are most likely to be neglected. When plants are watered, they should be thoroughly soaked and then not watered again for about a week. A little sprinkle of water every day or two does little, if any, good. Water may be alkaline in reaction, as it is in Baton Rouge, so plants that are watered extensively should be watched for symptoms resulting from alkaline soil. If these symptoms are noticed, corrective measures as mentioned before will be necessary.

## Mulching

The soil around camellias should not be cultivated except very lightly to keep down weeds and grass. A mulch of some kind should be kept around small plants until they are large enough to shade the ground around them. This is especially important for plants growing in full sunlight. The mulch is used for several purposes: it conserves moisture, tends to keep the surface soil cooler, helps to keep weeds and grass from growing, and reduces danger from cold injury to roots. The decaying mulch tends to keep a high organic matter content in the soil around the plants. A number of materials may be used, but those tending to have an acid reaction on the soil are best. Some of these are oak leaves, pine straw, peat moss, specially prepared bagasse such as Servall, and half rotted sawdust (cypress being preferable). New mulch should be put around the plants in the early spring after fertilizer has been applied if it has not been done previously.

## Propagation

### *1. Cuttings*

Camellias are propagated quite largely by cuttings. Wood of the current season's growth should be used for a cutting and it should be hard enough to break with a snap when bent. Commercially, cuttings are usually made in midsummer, but they may be made at any time the wood is suitable. If cuttings are made during the winter months, they will root better if heat is applied to the cutting bed. The cutting should be 4 to 5 inches long and the upper two to three leaves should not be removed.

The cutting bed should be in a well drained location, where it does not receive any direct sunlight. Cuttings will root in sharp sand but a mixture of about  $\frac{2}{3}$  sand and  $\frac{1}{3}$  peat moss is preferable. The rooting medium should cover about  $\frac{2}{3}$  of the length of the cutting. It is important that the cutting bed be kept moist at all times. The relative

humidity must be kept very high because of the leaves left on the cuttings and for this reason cutting beds are often covered until the cutting start to grow. Rooting will usually occur more quickly if the cuttings are treated with one of the growth promoting substances. The directions given by the manufacturer should be followed. The materials sold as a dust are easiest to apply.

Cuttings are often rooted on a small scale by placing them in a shady location such as the north side of a building. Covering each cutting with a jar is often beneficial.

## 2. *Grafting*

The grafting of camellias commercially and by individual camellia fanciers is becoming more important. This is especially true for the more expensive varieties. Except for weak growing varieties there is no advantage to having grafted plants. Because of the more extensive root system which is already established on the stock, grafts will usually grow more rapidly than a cutting. Grafted plants that are dug for transplanting lose part of this advantage, because of the loss of roots. Of course, undesirable varieties may, if successfully grafted, be changed to desired ones.

Camellia sasanquas or vigorous growing varieties of *Camellia japonica* such as Bealei Rosea, Sarah Frost, Prof. Sargent, etc. are used for grafting stock. Plants with single stems  $\frac{1}{2}$  to 1 inch in diameter are most suitable for grafting stock. Very large plants are more difficult to graft successfully. Terminal shoots that would be good for cuttings should be used as scions. The cleft graft is most generally used for grafting camellias. No detailed description of this type of graft will be given as it can be found in nearly any book or other publication on plant propagation. The stock should be cut off with a sharp saw about two inches above the ground. The stock should be split with a grafting tool or some other implement. The scion should be cut from a nearby plant or removed from water and dried and the bottom end sloped with a sharp knife and inserted as quickly as possible into the split in the stock so that the cambium layers of stock and scion coincide. The stock should be wrapped and cut surfaces and wrapping covered with melted paraffin or grafting wax which is not hot enough to cause injury. If the stock is large enough two scions may be placed in it. Two or three leaves should be left on the scion. If a large sized stock is grafted natural pressure on the scion may be too severe. This may be prevented by a wedge in the center of the split stock.

It is not particularly difficult to graft camellias, but there is no assurance that any particular graft will live. After the graft is finished, it should be covered with a glass jar or something similar to keep the humidity relatively high, and it should be protected from direct sunlight. Soil that will not pack or sand may be placed around the stock and

cover part of the scion. This should be kept moist. The jar should be left on until first leaves unfold and should not be left off abruptly but for part of a day to start with and the interval increased until it can be safely left off entirely. The graft should still receive some protection from direct sunlight after the jar has been permanently removed. Growth of the scion may not start for from six to ten weeks after the graft is made. Scions may look for several weeks as if they are going to live and then finally die. February is probably the best month in which to graft camellias.

### 3. *Seed*

Camellias are propagated to some extent from seed. They will not, however, come true from seed and a large percentage of seedlings produce undesirable single blooms. There is always a slight chance that a seedling may be worth propagating as a new variety. Vigorous growing seedlings may be used as grafting stock. If seed is to be planted, it should be done soon after harvest, or seed should be stratified in moist sand until late winter when it should be planted.

### Freeze Injury

Camellias are somewhat susceptible to injury from cold. The condition of the tree at the time of a freeze largely determines the extent of the injury. If plants are growing immediately prior to periods of low temperature there is likely to be injury. Nothing should be done to encourage growth late in the season. There is some difference in varietal susceptibility to cold injury. Well developed buds may be injured by cold. The buds may drop or centers may become brown. A few days after a freeze buds may be cut and if they have been injured by cold there will be brown in the center of the bud.

### Insects and Diseases

Camellias are often infested and may be severely injured by one or more of several species of insect. There are at least two diseases also which should be controlled. The time to spray or dust, spray or dust materials to use, and the insects and diseases to control are listed below.

**Kind of Oil to Use:** A medium-light highly refined mineral oil should be used in spraying camellias. These oils are usually referred to as "white-oil emulsion" or "Summer oil sprays". The one most commonly sold on the Baton Rouge market is known by the trade name of "Nursery Volck." Until recently it was a thin white paste or creamy emulsion having a consistency similar to mayonnaise. It contains 80% oil. Recently, this same oil under the same name has been placed on the market as a miscible oil which contains 97% oil.

## SPRAY SCHEDULE FOR CAMELLIAS

TIME	DUSTS AND SPRAYS	FOR CONTROL OF
1. First of April	A. White-oil emulsion Water	1 gal. 50 gals.
Alternate	(When disease control is desired). B. White-oil emulsion Bordeaux mixture	1 gal. 4-4-50
2. April 10 to 30 2 or 3 appli- cations.	Bordeaux mixture	4-4-50
3. May 1 to Sept. 1.	Dust with sulphur	Mite (microscopic)
4. Last of September 1st week of Oct.	White-oil emulsion Water	3 qts. 50 gals.
Anytime insects appear	Nicotine sulphate Soap Water  or 3% nicotine dust	½ pt. 3 lbs. 50 gals.  Aphids
	Cryolite (dust or spray)	Beetles Budworm

How to Spray: Each plant should be sprayed systematically and thoroughly. Most of the spraying should be done with the nozzle directed upward so that the underside of the leaves will be covered. After this is accomplished the tops of the leaves can be quickly sprayed with a few sweeps of the nozzle. Plants should not be drenched.

Caution: Camellias should not be sprayed in winter, nor in summer when the temperature is likely to go above 95°F. Plants suffering from lack of moisture or lack of cultivation should not be sprayed. Do not spray first year transplanted plants with oil.

Always allow at least four weeks between sulphur and oil applica-  
tions.

### PROPORTIONS FOR MIXING CAMELLIA SPRAYS

Water	White-oil Emulsion		
	1-100	1½-100	2-100
1 gal	3 level tablespoons	4½ level tablespoons	6 level tablespoons
6 gal	½ pint	¾ pint	1 pint
12 gal.	1 pint	1½ pints	1 quart
50 gal.	½ gal.	3 quarts	1 gal.
100 gal.	1 gal.	1½ gal.	2 gal.