Roses For The Yard

By

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The Peace Variety

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INTRODUCTION

There is no doubt that the rose is the most universally popular flower grown. There are many other beautiful flowers, such as the camellia, gladiolus, iris, daylily, narcissus and several other ornamental plants, that have many followers, but no other flower is a real rival of the rose. The fact that some kind of rose can be grown in most localities where any plant will thrive accounts for much of its widespread popularity. Its great range of types and colors, pleasing fragrance and unsurpassed beauty as a cut flower usually give it first consideration as a plant for home gardens. Here in the deep South it is possible to have roses in bloom in the open for a period of eight to nine months in a year. While the rose is generally grown as a cut flower, some types may be worked into a planned landscape. As the rose plant is a perennial, a rose bed properly cared for should be satisfactory for a number of years.

There is very little experimental information concerning the culture of roses in this area, but it is very much needed and desired. In general until the last few years, it has been believed that only a few varieties of roses could be successfully grown by the average person in south Louisiana. Many more people would grow roses if they could expect to grow satisfactorily some of the newer, more prized varieties. Experimental work was started with roses at the Louisiana Agricultural Experiment Station in January 1949. Several years have passed since then and a progress report on results obtained is given in this bulletin. Other information is based on observations and experimental work done here and elsewhere.

ROSE CLASSIFICATION

The average rose grower considers all roses as being either bush or climbing types. There are, however, several classes of roses, some being satisfactory and some unsatisfactory as a group but having individual varieties of special merit within the group. Bush roses are generally divided into the following classes: hybrid teas, hybrid perpetuals, grandifloras, teas, polyanthas, hybrid polyanthas (floribundas), tree or standard, and miniature.

Hybrid Teas

Varieties of this class are of relatively recent origin and are the result of crosses between tea roses and hybrid perpetuals. This group is of far more importance than the other groups, as it contains most of the varieties commonly grown now. Practically all greenhouse roses sold by florists are of the hybrid tea group. They are classified as continuous bloom-
ers, which means they bloom in cycles until stopped by unfavorable environmental conditions such as cold weather. The growth habits of the different varieties in this group vary, but generally speaking they range in height from two to six feet, with most being intermediate. They vary in form from the sprawling type of growth made by varieties like Crimson Glory to the upright growth of varieties like Texas Centennial. The foliage varies in color from the light green of Talisman to the dark green of Peace. Flower form may vary from the delicate single blossom of Dainty Bess to the full double of Briarcliff. Many of the hybrid teas are fragrant; others are not. Hybrid teas as a group are recurrent bloomers and are fairly vigorous growers.

Hybrid Perpetuals

The word perpetual in this case is very misleading. The hybrid perpetuals as a group are not perpetual bloomers, as their main blooming period is in the spring. During the time when they were most popular they came nearer to being perpetual bloomers than other types grown at that time. As a group they are of little importance today. American Beauty and Ulrich Brunner are varieties of this group. The variety Frau Karl Druschki is a hybrid perpetual and probably the best white variety for growing in Louisiana. The group as a whole grows vigorously and makes a stiff, upright type of growth and has dull green leaves and very double and somewhat flat blooms. They may or may not be fragrant.

Polyanthes

Plants of this group seldom grow over two feet in height. The flowers are small in size and borne in clusters. Fragrance is lacking in many varieties. Cecile Brunner (Sweetheart rose) and George Elger are examples of this group. This group is gradually being replaced by the hybrid polyanthas or floribundas.

Hybrid Polyanthas (Floribundas)

This class probably ranks second to the hybrid teas in importance at the present time. As a group they are similar to the true polyantha, but individual plants attain greater size. The blooms are borne in clusters and are generally larger than those of the polyanthas. The number of buds per cluster may vary considerably with different varieties. This is an important group of roses but cannot compare with the hybrid teas as a source of cut flowers or for exhibition purposes.

Grandiflora

In 1954 a new class of roses was added to the list. It is called grandiflora. It includes new rose varieties that have the following characteristics:

1. Plants of relatively tall growth.
2. Plants free flowering, often with many flowers in clusters but with individual stems long enough for cutting.
3. Flower size not necessarily as large as hybrid teas but larger than the average floribunda.

4. Hybrid tea standard for bud and flower form.

This class seemed necessary because of the production of hybrid roses that could not be easily classified in existing groups. Examples of varieties in this class are Queen Elizabeth and Roundelay.

There may be some confusion as to classification for a time at least. It would seem that several older varieties that are intermediate between floribundas and hybrid teas should be in this class. They could easily be placed in this class if the relatively tall growth is not emphasized.

**Tree or Standard**

Very few tree roses are grown in Louisiana. Many people dislike the constant pruning that is necessary to keep the top of a tree rose in a pleasing shape and the staking of plants which is essential for their support. Where hard winds are likely to occur the stake must be a strong one. A tree or standard rose can be any variety of bush rose. Hybrid teas and floribundas are probably used most. A tree rose is produced by selecting a straight-stemmed cane and placing one or two buds of the desired variety in it two to six feet from the ground, depending on the height desired for the plant. Tree roses of many of the hybrid teas can be bought. The cost of propagation makes them more expensive than the same variety grown as a bush rose.

**Miniatures**

This class of roses is characterized by small flowers and small plants. The plants range in height from six to twelve inches and the blooms are less than an inch in size. As a group they are not too popular in Louisiana. Pixie, Midget and Tom Thumb are varieties of this class.

**Climbing Hybrid Teas**

Bud mutations frequently occur on bush hybrid teas. One bud may make exceptional growth and that particular cane become much taller than the remaining canes. If this climbing type of growth is due to a bud mutation, this variation from the normal can be propagated asexually and the climbing characteristic perpetuated.

Generally speaking, climbing hybrid teas do not have as many blooming periods as the bush forms, but individual plants may produce many more blooms at one time. The additional foliage present on climbers and its distance from the ground make disease control more difficult than on bush types. Climbing roses could be of more importance in Louisiana than the number now planted indicates.

**Teas**

The tea group is characterized by small flowers, small leaves and growth that is usually not vigorous. They are normally recurrent bloomers until low temperatures induce dormancy. This group is of
very little importance at the present time. Lady Hillingdon is one of the few varieties of this type still grown to some extent in Louisiana.

VARIETIES

One of the most important considerations when planning to plant a rose garden is the selection of proper varieties. There are hundreds of rose varieties, and the grower usually has to limit selections to only a few of them. Success with roses will depend to a great extent on the selection of varieties adapted to the area where they are to be grown. Varieties selected only from pictures in a catalogue can easily lead to disappointment. Varieties satisfactory under some conditions will not do under others. People may also differ as to what satisfies them when it comes to rose production. Individual preference in regard to color and shape should be taken into consideration. What may be considered excellent by one may be thought to be inferior by another. In the variety test at L.S.U. there are about 100 selected varieties. Of course there are many good varieties that have not been tried, but promising varieties are added each year. New rose varieties are constantly being developed
by rose breeders. Most of the new varieties are being patented, which means they should not be propagated without authorization.

When the ornamental program at the Louisiana Agricultural Experiment Station was started, it was known that many varieties could be grown in the northern part of the state, but there was considerable doubt about the probable success with roses, except for a few varieties, in the southern part of the state. Two or three years should be sufficient time to indicate whether varieties may be successfully grown in an area. The number of years that bushes may live and grow successfully will take more time to determine.

Most yard gardeners are not interested in planting a large number of varieties. It is believed that it is better to plant three to six plants each of a few varieties than to set out one plant each of more varieties. In that way bouquets of a variety can be cut at one time.

There are four varieties of roses that have been recommended for planting in south Louisiana for several years. These varieties are Red and Pink Radiance, Etoile de Holland and Editor McFarland. After growing some of the newer varieties some people do not believe that Radiance roses should be recommended. It is believed, however, that in south Louisiana the two Radiance roses should still head the list of varieties to plant, for in this area they are the most vigorous growers and most dependable bloomers. They cannot compare with good specimens of many other varieties, but when other varieties are not available, the Radiance roses are very satisfactory. The shell pink Radiance, Mrs. Charles Bell, is fairly good but not in the class with the two Radiance roses recommended. Varieties are sometimes sold as White Radiance but there is no white rose in the class of the Red or Pink Radiance. The Etoile de Holland is a popular, old, red variety. It is a semi-double rose. The stems are sometimes not strong enough to hold the blooms up as they should. Editor McFarland is a very good pink rose. Its blooms are borne in clusters and require a lot of disbudding to produce specimen flowers. Bushes of this variety have been rather severely damaged by die-back in the experimental plots and for that reason it is not highly recommended for planting. There is another variety, Charles K. Douglas, that is quite similar to Etoile de Holland but may grow a little more vigorously. A poor, full-double rose is sometimes sold as Charles K. Douglas.

The following patented roses are recommended as worthy of trial:

**Peace**—It is still the outstanding variety and belongs in a class by itself. The color is somewhat variable but may be called a cream with more or less pink tincting. Cooler temperatures seem to make the colors more intense. When fully open, it is a very large rose somewhat similar to the hybrid perpetual type, but in spite of its size is very beautiful. It does not have as many blooms per bush as some varieties, but it is really not a shy bloomer. It makes a vigorous growth, and the stems are very
large in diameter. However, growers in Louisiana have not been uniformly successful in growing this variety.

There are now on the market a number of good red varieties, and for that reason there are more of this color to select from than other colors. Some of the better ones are as follows:

**Crimson Glory**—Still the most popular red garden rose. Produces large buds and flowers in profusion but usually on fairly short stems. Blooms are produced a little later in the season than those of the other red varieties mentioned. The plants tend to be low and spreading. This variety should be found to be generally satisfactory.

**Nocturne**—One of the most beautiful red roses. Long, pointed buds are produced. The plant makes a vigorous upright growth. The color of this rose tends to fade to some extent during very hot weather.

**Mirandy**—A very dark red rose. It is a very popular variety. Plants grow vigorously and produce an abundance of flowers. The color does not fade badly in hot weather. The buds are not pointed and are not too pretty until they are partly open.

**Big Daddy**—The plants make very good growth and large, well-shaped buds are produced. Best blooms have been obtained in the fall.

**New Yorker**—A very good red rose that should be satisfactory.

**Chrysler Imperial** and **San Fernando** are also good varieties.

There are some varieties that are sold as reds that have been rose colored in the test plots here. The following varieties of this type are recommended:

**Charlotte Armstrong**—This variety produces very long buds that are especially beautiful. The bush makes a vigorous but not compact growth. This variety is highly recommended as one of the best to plant.

**Rubaiyat**—Plants make a vigorous growth and produce a profusion of blooms. This is an excellent variety.

**Gay Lady**—This rose is more nearly red in the fall. The plants make a very vigorous growth. The foliage is dark green and characteristic of the variety. This variety is highly recommended.

There are many varieties of pink roses but not too many can be recommended. Some of the varieties listed are two-toned and may be considered bicolors by many people.

**Countess Vandal**—This has been a general favorite of those visiting the test garden here. It produces large, long, pointed buds that always attract attention. The plant does not make a very vigorous growth in south Louisiana, but it produces many beautiful blooms with a few side buds.
Mission Bells—Plants make good growth and bloom very well. It is one of the better pink varieties.

Capistrano—A good pink. Plants make good growth and bloom profusely.

Picture—The plants are only medium in size. Blooms are not large but they are very pretty. A great abundance of flowers is produced. Except for size this is a very satisfactory variety.

The Doctor—When well grown this is an outstanding pink variety. It can not be generally recommended because it often does not do well. A slight amount of shade will probably be beneficial to plants of this variety during hot weather.

Excellent yellow roses have not been found to be too plentiful so far, but there are a few that can be recommended.

Eclipse—This is still the most popular yellow variety. It has bloomed profusely for six years in the variety test here. The best blooms were produced in the spring and fall, but many good blooms have been produced in the summer. The blooms tend to fade in hot weather, and it is not an intense yellow at best. Blooms are not large but many are produced. It is especially beautiful in the bud stage. The plants make only a fairly vigorous growth.

Buccaneer—This is a fairly new variety but it appears to be an excellent one. The plants are exceptionally vigorous in growth and the blooms are a bright yellow. The buds are medium in size and not very pointed.

Golden Masterpiece—This is a new variety that seems very promising. The flowers contain more petals than most yellow roses. The plants make good growth.

There are a number of bicolor roses that are good, though the group in general requires a little more attention than some of the other kinds. Where proper care can be given, the beauty of the blooms obtained is often worth the added trouble.

Sutters Gold—This is considered to be one of the best varieties of this group. The yellow, orange-tinted flowers vary considerably in shade of coloring.

Girona—In the test plots this has been one of the best bicolors. The plant makes a vigorous growth and produces many beautiful blooms.

Helen Traubel—The color is pink and apricot. This is one of the newer varieties that seems very promising. The plants grow well and produce beautiful buds. The buds, however, open rather rapidly.

The Chief—This variety produces very large striking blooms on long stems. The bush itself tends to be low and spreading.
The following varieties have done very well and are worthy of trial:

**Lowell Thomas**—yellow  
**Grande Duchesse Charlotte**—medium red

**McGredy’s Yellow**—yellow  
**Show Girl**—pink

**Taffeta**—bicolor  
**Better Times**—red

The following newer varieties seem very promising:

**Mojave - LaJolla - Tiffany**

No white variety that can be recommended has been tried as yet. Caledonia and K. A. Victoria, a cream white, have been as good as any. If size is not important, Snowbird is all right. White varieties seem to be especially subject to thrip injury. Frau Karl Druschki, often called White American Beauty, is a hybrid perpetual that can be recommended in its class. The plants of this variety make a much more vigorous growth than hybrid tea bushes; this should be considered when the plants are set out. Blooms are produced profusely in the spring only, but some blooms should be obtained in the fall.

Only a limited number of floribunda varieties have been grown in the test plots, but the following can be recommended.

**Embers Fashion Frolic Goldilocks Jiminy Cricket Pinocchio Siren Summer Snow Vogue Lilibet**

**GRADE OF PLANTS TO BUY**

Rose bushes are usually sold in three grades—No. 1, No. 1½ and No. 2. The No. 1 grade is the largest size and is the one recommended for planting. The size of No. 1 bushes will vary to some extent with the vigor of the variety. The more vigorous ones should have at least three canes. The best two-year-old, field-grown plants should be obtained for planting. They should be free of crown gall which is often found on rose bushes, though such plants should not be passed for sale by inspectors. Quality of rose bushes should not be sacrificed for bargain prices. If it is possible, plants that have gone into a normal dormancy should be obtained. Orders for plants should be placed early in the season to help insure obtaining the varieties desired. The time delivery is wanted should be specified when the order is placed. When the plants are received, they should be unpacked immediately and either planted or heeled in until they can be set out.

A number of rose plants are now grown and offered for sale in containers. In general these plants are smaller than field-grown plants. They may be transplanted at any time, provided that the soil remains intact when the container is removed and the plant set out. The container plants have the advantage of no root pruning at planting time, but the roots are restricted to the container area.

No particular source of plants can be recommended. Plants in the test plots have come from several sources in various parts of the United
States. Good, healthy plants of suitable varieties from all sources have done well. The important thing is to get good plants of varieties that are adapted to the area where they are to be grown. Cheap plants are often not a bargain, but a high price does not insure getting a good plant.

LOCATION

Good drainage is imperative if roses are to be grown successfully. This does not merely mean surface run off of water, but that water will percolate through the soil so that it will not stay waterlogged. If the soil is poorly drained because of an impervious layer near the surface, it is not suitable for planting roses. Under such conditions merely digging a pit and putting gravel in the bottom will do no good unless the depth is sufficient to go through the portion of soil preventing good drainage and allow the water to go through it. When drainage is not too good, raising the level of the rose bed should be beneficial. Even where drainage is thought to be good, raising the level of the rose bed may often be beneficial.

A location exposed to full sun is best for the rose garden. If such a site is not available, place the rose garden where it will get as much sunshine as possible. During the hottest part of the summer a little shade might be beneficial so far as color of blooms is concerned, but in the spring and fall it will not. To much sun causes the color to fade.

Hybrid tea roses are grown almost exclusively for cut flowers, and the rose garden is usually not too pretty from the landscape standpoint. This means that, where choice can be exercised, the rose garden should not be located in a prominent place, such as the front yard.

Many climbers, floribundas, and rose species may, however, be used as landscape material, as their type of growth and blooming habits may be well adapted for this purpose.

SOIL

Roses are grown successfully on a wide range of soil types. In the average yard the grower does not have much choice. If a choice can be made, a loam soil with a porous clay subsoil is probably ideal. A mildly acid soil is best for roses, with a pH range of 6.0 to 6.5 probably being best.

SPACING

Because of lack of space or the desire to plant too many bushes, plants are often set out much too close together. If good growth is expected, plants must have ample space in which to grow. Three feet between plants in the row is a good spacing to use, and the distance between rows should be 4 to 5 feet. It is believed that one of the reasons why roses have grown so well in the experimental plots is that they have not been too crowded. It is best for rose plantings to be in double rows.
rather than in three or more, so that they are more accessible for cutting blooms, dusting or spraying, pruning, etc. Less vigorous varieties, especially floribundas, may be spaced more closely than the more vigorous ones. Even these should not be spaced closer than 2 to 2½ feet in the row.

PLANTING

The best time to set out roses may vary from year to year, though it should be done in the dormant season. General recommendations must of necessity be a sort of compromise. In the South root growth often takes place though the above ground parts may be dormant. Plants should be set out in time for the root system to become somewhat established before active growth starts in the spring. If set out early and there is a period of mild weather, growth may start in the above ground parts and then, if a severe cold comes, plants may be damaged or killed. This happened in February 1951. If plants are set late in the dormant season, poor growth usually occurs at least for a time.

January is probably the best time to plant roses in south Louisiana and February in north Louisiana. If dormant plants can be obtained in December they might be all right for setting then in north Louisiana, provided they are not damaged by cold later on. Most rose plants are sold bare rooted and should be dormant when they are set out. The rose bush apparently does not have a true rest period, and after the bushes are set out, they will grow when conditions are favorable for growth. If plants are set out in Louisiana in October or November, they are sure to start growth before low temperatures retard such growth. Such young growth may then be damaged by cold, or inferior blooms produced out of season may use reserve food in the plant to such an extent that growth will not be normal when spring comes. This happened to plants set out in January of 1950 at Baton Rouge because of a more open winter than is usual for this area.

Plants should be set out when the soil can be worked well. Do not plant when the soil is wet and soggy because under such conditions it is impossible to do a good job of planting. Preparation of beds should be begun well ahead of time of planting. Even a year ahead is not too long. The bed should be raised if necessary and a considerable amount of organic matter worked into the soil. This may be a green-manure crop, leaves or manure of some kind. In any case the organic matter should be well decomposed before time to plant the bushes. Holes should be dug large enough to allow the roots to be spread in a normal position. A mound or cone of soil built in the hole is often better than trying to push soil under the roots. The plant should be set at a depth that allows the crown of the plant to be at or just beneath the surface after the soil has settled. If the plant is set too high, it will likely be damaged by wind or blown over. After the roots have been properly spread in the hole, surface soil alone or with some leaf mold should be added first as it will be in contact with the roots. As more soil is added, it should
be packed well around the roots. When the hole is nearly filled, the plant should be watered well. After the water settles, finish filling the hole with soil that is not muddy. It may be mounded slightly around the plant temporarily, but no further packing is necessary.

Experienced growers might use a small amount of commercial fertilizer at planting time, but it would probably be better to wait and fertilize properly later. Many plants are damaged or killed by the use of too much fertilizer at planting time.

No pruning should be necessary at time of planting, but it may be done if essential.

**FERTILIZER**

There are a number of elements that are essential for plant growth. Most of these elements are obtained from the soil, some in very small quantities. If all of the essential elements that come from the soil are present in a form available to the plant and in sufficient quantity to meet the needs of the plant, no fertilizer need be added. Usually soils in the South are deficient in one or more of these elements. It is to supply these deficiencies that fertilizers are added. Information concerning the fertilizer needs of roses is not too conclusive. Work at Cornell University indicates that the nitrate level in the soil solution should be from 25 to 100 parts per million. This means that it is possible to have too much as well as too little available nitrogen present. A fertilizer experiment was started with roses at the Louisiana Agricultural Experiment Station in February 1949. There are 12 plants in each plot, two each of Red Radiance, Editor McFarland, Etoile de Holland, Countess Vandal, Crimson Glory and Eclipse. The plants were spaced 3 feet in the row and 6 feet between rows. Each treatment was replicated three times. The soil type is Lintonia silt loam.

The following treatments were used:

- **Check**—no fertilizer
- Chicken manure at the rate of 10 tons per acre.
- Chicken manure at the rate of 10 tons per acre + \( \frac{1}{8} \) lb. 8-8-8 per plant.
- Chicken manure at the rate of 10 tons per acre + \( \frac{1}{8} \) lb. 8-8-8 per plant + \( \frac{1}{8} \) lb. nitrate of soda per plant in August.
- Barnyard cow manure at the rate of 20 tons per acre.
- Barnyard cow manure at the rate of 20 tons per acre + \( \frac{1}{8} \) lb. 8-8-8 per plant.
- Barnyard cow manure at the rate of 20 tons per acre + \( \frac{1}{8} \) lb. 8-8-8 per plant + \( \frac{1}{8} \) lb. nitrate of soda per plant in August.
- Cottonseed meal at the rate of 2000 lbs. per acre.
- Cottonseed meal at the rate of 2000 lbs. per acre + \( \frac{1}{8} \) lb. nitrate of soda per plant in August.
- 8-8-8 at the rate of \( \frac{1}{8} \) lb. per plant.
- 8-8-8 at the rate of \( \frac{3}{4} \) lb. per plant.
8-8-8 at the rate of \( \frac{1}{4} \) lb. per plant + \( \frac{1}{6} \) lb. nitrate of soda per plant in August.

8-8-8 at the rate of \( \frac{1}{4} \) lb. per plant + \( \frac{1}{6} \) lb. nitrate of soda per plant in August + esminel at rate of \( \frac{1}{5} \) oz. per plant.

In 1951 the rates of 8-8-8 per plant were increased from \( \frac{1}{8} \) and \( \frac{1}{4} \) pound per plant to \( \frac{1}{4} \) and \( \frac{1}{2} \) pound per plant.

For three years there was very little difference in growth of plants on any of the plots regardless of fertilizer treatment. All made good growth and bloomed well. Plants on plots that received no fertilizer were only slightly behind and those on plots that received manure were slightly ahead of the plants on the other plots. The addition of fertilizer made no noticeable difference where manure had been applied. The difference in the rate of application of 8-8-8 had made no difference. There was no apparent damage to plants from any of the fertilizer treatments.

After six years plants of the no-fertilizer plots are very poor compared to those in other plots and if they live will not be very productive. Plants on plots that received manure have a definite superiority. The addition of commercial fertilizer to plots that received manure has shown no benefit to date. Plants on plots that received cottonseed meal are not superior to those that received 8-8-8. The addition of nitrogen to plots in mid-August gave some stimulation to plant growth after the fourth year.

The results obtained so far from the fertilizer test show that there is a definite response of the rose bush to the application of fertilizer, but that the rose does not need fertilizer in amounts often applied nor as frequently as it is often given. The application of manure has definitely been beneficial. Well-decomposed manure should be used. It should be remembered, however, that when manure is used weeds are usually more of a problem. The manure should be broadcast uniformly over the rose bed.

The best time to apply fertilizer is in late winter. This would be about the middle of February in south Louisiana. It should be applied broadcast in an area extending about 18 inches in every direction from the crown of the plant. The fertilizer should be evenly distributed over the area. It is best to work the fertilizer into the soil around the plants. Only a rather general suggestion can be given as to the amount to apply, and that is from \( \frac{1}{8} \) to \( \frac{1}{4} \) pound of 8-8-8 fertilizer per plant or its equivalent. Any good complete fertilizer may be used. The rate of application of a complete fertilizer is usually based on the nitrogen content. That would mean that half as much fertilizer that contains 8 per cent N should be used as one containing only 4 per cent N. In good soil one application of complete fertilizer per year should be sufficient. An application of nitrate of soda or its equivalent at the rate of 1 to 2 ounces per plant in August may be beneficial for the fall blooms. In very sandy soils additional nitrogen may be beneficial, but it should
not be applied late enough to stimulate growth that might be subject to winter injury. Fertilizer should be used with caution, for it may be that more rose bushes have been damaged by the use of excessive amounts than from its lack. It is believed, however, that in the South the use of some fertilizer will, under most conditions, be beneficial.

Cultivation

The main reasons for cultivation are to control weeds and grass and to prevent the soil from becoming too compact. Aside from being unsightly, weeds and grass compete with the rose plants for water and essential elements that are obtained from the soil. If the soil becomes too compact the plant may suffer because of insufficient oxygen to supply the needs of the roots. The main cultivation should be given right after the winter pruning and just prior to the application of fertilizer. Only light cultivation should be given the rest of the year, so as not to damage the roots of the rose plants unnecessarily.

Rose Propagation

Cuttings

Most of the common varieties of roses can be propagated by cuttings. A rose propagated from a cutting is own-rooted. It has developed roots from its own tissues.

Information on the longevity of the newer and many of the older varieties of hybrid teas on their “own roots” is not available. Some of the older hybrid tea varieties do well on their own roots. In Baton Rouge there are a few Pink and Red Radiance plants growing and flowering well that were propagated by cuttings 21 years ago. It is quite possible that many varieties will perform satisfactorily on their own roots. It takes from two to four years to produce a desirable plant from a cutting but apparently some varieties do not do well when own-rooted. Experiments are in progress in the ornamental research program at the Louisiana Agricultural Experiment Station to test own-rooted roses versus budded roses and to get information on the best stocks to use for budding roses to be grown under Louisiana conditions.

The following rose varieties propagated from cuttings have grown satisfactorily for four years in experimental plots: Peace, Mirandy, Nocturne, Charlotte Armstrong, Red Radiance, Eclipse, Countess Vandal, Etoile de Holland and Crimson Glory.

Cuttings can be made from roses during the growing season or during the dormant season. If cuttings are taken during the growing season, they are semi-hardwood cuttings and can be made from a stem just before blooming, at the time of bloom, or just after blooming. Semi-hardwood cuttings root best if given special attention. Fair results can be expected if cuttings are treated as follows: Use a cutting box with 6-inch sides that has holes in the bottom for drainage. Cover the holes with an inch of gravel or broken pottery. Use a mixture of \( \frac{1}{2} \) sand plus \( \frac{1}{2} \) vermiculite by volume or sand alone as a rooting medium. A mixture
of 1/2 peat and 1/2 sand is also satisfactory. Cover the cutting box with unbleached sheeting so that the sheeting will be around 24 to 30 inches above the sides of the cutting box. Place the cutting box in a shaded place and water down well. The cuttings should be 5 to 7 inches in length and the basal cut should be made just below a bud. The upper leaves should be left on the cutting. Dip the basal end of the cutting in one of the commercial root-inducing materials. Those that have the weaker concentrations should be used and not the ones sold to be used on plants that are hard to root. Then place the cutting in the cutting bed, leaving 2 to 3 inches of the cutting exposed above the rooting medium. Keep the rooting medium moist, never allowing it to dry out.

Hardwood cuttings are generally taken during December, January and February after the plants are defoliated. Cuttings 8 to 10 inches in length about the size of or slightly larger than a lead pencil are used. These should be placed about 4 inches apart in well-prepared and well-drained rows. Root stimulants are probably of no value on hardwood cuttings. Hardwood cuttings should be placed deep in the soil with only two buds exposed. This is an excellent method for obtaining plants to be used as an understock for budding. During most seasons a covering or other protection is not necessary for hardwood cuttings in Louisiana.

**Budding**

Practically all roses sold for outdoor growing have been budded. The T or shield method of budding is used. It is the same method that is used in propagating citrus and peaches. Multiflora, Ragged Robin, Odorata, Manetti, Dr. Huey, IXL and others are used as understock for budding. In budding, the understock furnishes the root system, and the bud or scion placed in it forms the top of the plant. Buds on the lower part of the cuttings to be used as stocks should be removed to prevent growth from the stock after propagation.

When the understock attains the size of one-fourth to six-sixteenths of an inch in diameter it is large enough to bud. Budding can be done at any time the bark is slipping. The technique involved in budding roses is simple. A T-cut about an inch in length is made through the bark as low as possible on the understock. A bud that has been cut in a shield shape is then inserted into the T-cut. The bud should come from wood that is not succulent or that is not too hard. The cut on individual buds should start one-half inch below the bud and stop one-half inch above it. A portion of the leaf petiole can be left on the bud to aid in placing the bud in the T-cut slit. The bud is inserted into the slit at the top of the T after the sides of the lower portion of the T have been peeled open. After proper placement of the bud the complete area below and above the bud should be wrapped with rubber budding strips, raffia or cotton twine. The bud itself should not be covered with the wrapping material. If the bud is green two weeks after budding, the chances are it has “taken.” If twine or raffia was used in wrapping, it should be re-
moved at this time. If rubber strips were used, they will rot and not girdle the bud.

If the budding operation is performed in the spring, the understock can be cut off just above the bud as soon as it has taken. If the budding is done in late summer, it is better to wait until the following spring to remove the part of the understock above the bud. Late summer or fall removal might force the bud into growth that would be injured by winter temperature.

Good plants have been produced here on all of the following understock: Multiflora, Ragged Robin, Dr. Huey, IXL, Manetti and Odorata. Only a limited number of plants have been grown so far but no one understock has shown superiority.

**Grafting**

Many of the greenhouse roses grown for cut flowers are grafted. The splice graft or whip graft is usually used on small stock. Most outdoor roses are budded rather than grafted.

Healthy, vigorous outdoor plants that produce undesirable flowers could be grafted successfully with desirable types. Either bark or cleft grafting could be used. Bark grafting should be done in early spring just after growth begins at a time when the bark will slip. A slanting cut of 1 to 1 1/2 inches should be made on a dormant scion and the scion should be inserted into a T-slit made near the ground on the stock. After the scion begins growth the stock above the scion can be removed with a knife or pruning shears.

In cleft grafting the stock should be cut off 2 to 3 inches above the ground and a 2-inch slit made in the middle of the stock. Dormant scions 4 inches to 6 inches in length should be cut at the basal end in a wedge shape. The scions should then be inserted into the cleft.

Care should be taken in matching the cambium of the stock and scion. The cut portion of the graft should be treated with one of the wound healing materials such as Tree Kote, Tree Seal or a similar preparation. Cleft grafting would be more successful if done during the latter part of the dormant season, usually early February in Louisiana.

**PRUNING**

**Bush Roses**

The recommended time for pruning roses in Louisiana is in February. In general the later in the season pruning is done, the later will be the first crop of blooms. As soon after pruning as weather conditions permit, new growth will start on the plants, and it may be damaged by severe cold following growth. That is the risk taken when pruning is done in December or January. The grower will have to use his own judgment as to how much chance he wants to take to get very early blooms. If pruning is delayed too long, growth may be reduced considerably, at least early in the season. Good pruning shears that will make clean cuts should be used. When pruning vigorous plants good loppers
are easier and safer to use. The shape of the bush may be controlled to some extent by pruning to inside or outside buds, but varieties tend to have a characteristic shape which is not likely to be altered too much. Heavy gloves should be worn when pruning roses, and even then it is difficult to keep from getting stuck.

There is some variation of opinion as to the extent of the pruning that should be done. It should be remembered that in general pruning has a dwarfing effect on the plant. Its apparent stimulatory effect is due to the reduction of growing points, thus giving more vigorous shoots but not as many. Pruning of rose bushes is done to regulate the size of the plants and to increase the length of the stems of blooms. It also removes dead and dying canes. Four to eight healthy canes should be left per plant. Plants of vigorous varieties such as Radiance may be cut back at the winter pruning time to 12 to 15 inches from the ground. Most varieties should be cut back to from 18 to 20 inches from the ground if that much can be left. Weak growing plants should be pruned lightly.

In the South where vigorous growth has been made during the summer and bushes are tall and ragged looking, another general pruning should be made in mid-August. This is done to get the bushes in condition for the fall bloom. It should not be as severe as the winter pruning. Canes should be cut back to about 24 to 30 inches from the ground and some thinning out done.

Climbing Roses

Pruning of climbing roses is a little different from pruning bush roses. Early blooms are produced on canes of the previous year’s growth.
Pruned plants in fertilizer plots.

Large plants at left, unpruned, others pruned.
so that, if it is reduced extensively, the number of blooms will be decreased considerably. Pruning after the first bloom period is generally recommended. The spring bloom of hybrid perpetual climbers is the main bloom though there may be a light bloom in the fall. Climbing roses should be pruned sufficiently to keep them within the limits of the trellis or other support used. Some so-called climbing roses are really pillar roses, but they should be pruned similarly to real climbers.

**Floribunda roses** should be pruned according to vigor of growth and their adaptation to the general landscape design.

**DISBUDDING**

If flowers of exhibition varieties are to be grown for show purposes, they must be disbudded. This means that only one bud, the terminal, should be allowed to bloom per stem. The side buds should be removed when they are very small and can be easily removed without leaving noticeable scars. In a large rose planting proper disbudding will consume considerable time, but it greatly affects the quality of blooms produced. When quantity of blooms is more desired than quality, disbudding need not be practiced so carefully. Some varieties, such as Talisman, often have terminal buds that tend to be defective, in which case disbudding should not be done too thoroughly. There is a varietal difference in the way blooms are produced. Some tend to have few, if any, side buds, while others tend to bloom in clusters.

**CUTTING BLOOMS**

There is a common belief that rose blooms must be kept cut if the bush is to continue blooming profusely. This is not necessarily true. Blooms left on the bushes too long tend to be unsightly, and, if seed are allowed to set, their development will be a drain on the plant. Roses are grown primarily for cut flowers, and that means that they will be cut. Roses can be cut to such an extent that the bush will be injured. Very few blooms, if any, should be cut from the first crop after the plants are set out. When plants make a new growth, it is at the expense of reserve food in the plant. Leaves from the new growth if not removed replace the food used and add to it, thus helping to keep the plant in good condition and allowing it to grow. If too many blooms with their accompanying leaves are removed the plant will not grow as it should. Let the plant get well established before cutting the blooms too freely. Even established plants should not be cut severely enough, when removing blooms, to injure the plant materially. Cutting blooms, if properly done, is in reality a type of pruning and may prevent the bushes from growing out of bounds. The plants will likely thrive better if some of the blooms are enjoyed on the bushes. It is believed that another reason the bushes in the test garden have grown so well is that blooms were not cut when the plants were small. Probably one of the main reasons that rose bushes do not grow well or live long is that too much plant and leaves are removed with the blooms. Good plants are able to pro-
duce well the first year and then deteriorate rapidly. If plants could be replaced every year or two it would not make so much difference.

The best time of day to cut roses is now believed to be in the afternoon. This is because at that time there are more food reserves in the parts removed, and for that reason the flowers should keep better. It should be remembered, however, that during hot weather flowers open rapidly and what were buds in the morning may be full open blooms by late afternoon.

**MULCHING**

Proper mulching is beneficial to the rose garden. Materials such as pine straw, oak leaves, sawdust, bagasse, etc., may be used. The mulch should be no more than from 2 to 3 inches deep. It will help conserve moisture and tend to discourage weed and grass growth. When mulch materials decompose, they add organic matter to the soil. In the process of decomposition nitrogen is necessary, and mulching usually makes the addition of extra nitrogen beneficial.

**IRRIGATION**

While good drainage is absolutely essential for the successful growth of roses, the plants should not suffer for lack of water. This means that at certain times during the year watering will be beneficial. As with other plants, when roses are watered, the job should be done thoroughly; then wait about a week before it is repeated. Raised beds recommended for roses make the task of watering properly more difficult. If the water can be applied without wetting the leaves, leaf diseases will not spread as badly.

**DISEASES AND INSECTS**

Healthy, vigorous rose plants are necessary for the production of high quality flowers. To grow that type of rose plant, diseases and insects must either be prevented from attacking them or controlled when they appear. Badly diseased plants or those heavily infested with insects cannot make sufficient growth to produce good blooms, nor are they likely to live long.

The two most serious rose diseases that commonly occur in Louisiana are black spot and mildew. Black spot normally is the most injurious. Failure to control it is one of the main reasons for lack of success with roses.

Black spot is caused by a fungus. It usually occurs first on the leaves nearest the ground but will spread over the plant. The first noticeable symptoms are small purplish or dark gray spots on the leaves. These spots may increase in size and darkness of color. After a few days the area of the leaves surrounding the spots becomes yellow. These spots contain thousands of spores that can be spread, especially under moist conditions, by wind, insects and other means. Severe infections, if not checked, may cause complete defoliation of certain rose varieties.
Mildew is normally most troublesome during the early spring and in the fall when the weather is cool and relatively dry. It is generally not a serious problem during hot weather. Buds, stems and leaves infected with the organism that causes mildew have a whitish coating that is easily seen. Leaves frequently become curled and twisted after infection. The rambler type roses are so susceptible to mildew injury that they are not recommended in this area. Mildew is not controlled by many of the fungicides used to spray roses. Sulphur is one of the best materials to use. There is a relatively new material that is available now that is said to be excellent for mildew control. It was originally called Karathane, then Iscothan and now renamed Mildex. It is useful only for the control of mildew.

In general fungicides are protective materials and do not cure diseased portions of the plant. For best control it is essential that plants be sprayed or dusted with an effective fungicide before the disease organism attacks and that a protective covering be kept on the plants at all times. Proper treatment should prevent the spread of the organisms. Spraying the plants will usually give better disease control than dusting, because the material used will stay on the plants longer and will not wash off as easily. Dusting is often more easily and quickly done than spraying and for that reason is often preferred. It does, however, take more material. The residue left on the plant when a fungicide is applied is often objectionable. This is particularly true when fermate or one of the copper compounds is used. When a fungicidal spray is applied to plants in bloom, it should be kept off of the blooms as much as possible, if the blooms are to be cut.

If the following directions are followed, very good control of black spot should be obtained. After the rose plants are pruned in February, the pruned portions should be removed and burned. All leaves and other debris should be raked from the ground around the plants and burned. The pruned plants and the ground around them should then be sprayed with Bordeaux mixture or a similar copper compound. This should tend to prevent an early infection of disease organisms. When spring growth begins, the plants should be sprayed or dusted at intervals of one week with suitable fungicides. During periods of rainfall more frequent applications would likely be beneficial. It is important to have the spray or dust material on the plant before a rain and as soon after as possible. Tribasic copper sulphate used at the rate of 3 pounds to 50 gallons of water with a little soap powder or flakes used as a sticker has given good control of black spot in the L. S. U. experimental plots. This is at the rate of 1 ounce to 1.04 gallons of water. Some foliage injury can be expected from the use of copper compounds during cold, wet periods. If Bordeaux mixture is used, the standard 4-4-50 mixture (4 pounds bluestone, 4 pounds of lime and 50 gallons of water) is satisfactory. Fermate used at the rate of \( \frac{1}{2} \) to \( \frac{3}{4} \) pound to 50 gallons of water is effective against blackspot. Dithane Z-78 at the rate of \( \frac{3}{4} \) to 1 pound
per 50 gallons of water with a little soap sticker should be satisfactory. Manzate used at the rate of $\frac{3}{4}$ of a pound per 50 gallons of water, plus a sticker, has been used satisfactorily. The most generally recommended fungicide for roses at the present time is Captan. It should be used at the rate of 1 pound per 50 gallons of water. If small amounts of spray material are to be used, 1 tablespoon level full of Captan, Dithane Z-78 or manzate may be used per gallon of water. Wettable sulphur may be used as a spray. Sulphur used as a dust is effective against rose diseases if kept on the foliage. A mixture made of about 88 per cent sulphur and 12 per cent copper is a more effective dust. It is probably best to get such a mixture already made than for the individual to try to mix it. During very hot weather there is likely to be some damage to foliage caused by sulphur. The addition of sulphur to soil will lower the pH of the soil. If added in sufficient quantity, the soil will become too acid for rose plants to grow well. The accumulation of sulphur used as a dust may thus cause harmful soil acidity. This means that sulphur as a dust should be applied with a good duster and not used in excessive amounts. Late in the afternoon is probably the best time to apply dust. If the soil is too acid lime may be added. A soil sample should be sent to the Soil Testing Laboratroy and advice as to adding lime followed.

Crown gall is a bacterial disease that attacks the roots and crown of the rose and many other plants. It causes the formation of gall-like structures. If a plant has galls on the roots or crown, it should be destroyed rather than planted.

Chewing insects can be controlled best with market preparations of DDT, chlordane, or cryolite. It is impossible to prevent some damage to buds from night flying insects. Thrips are nearly always present in rose flowers. They are particularly harmful to white flowers. Thrips may prevent the proper opening of flowers of certain rose varieties, especially those that produce buds that have a very large number of petals. Thrips are a very difficult insect to control. The best control is to use DDT at the rate of 1 level tablespoon per gallon of water. Dieldrin may also be used for thrips at the rate of 5 cc per gallon. Aphids, often called plant lice, may cause considerable injury to the new growth of rose plants. They may literally cover the tips of growing shoots and buds. They are sucking insects and must be controlled by the use of a contact insecticide. Of the older materials, nicotine sulphate (Blackleaf 40) is one of the best to use for aphid control. It should be used at the rate of 1 1/2 to 2 teaspoons per gallon of water to which a little soap should be added. Nicotine sulphate spray is most effective when the temperature is relatively high. Malathion and Lindane are two of the newer materials that are effective in the control of aphids. Spray as often as aphids are found. Contact insecticides are not preventives, and must come into direct contact with the insects that are to be killed.

Rose plants are susceptible to nematode injury and are often seriously damaged. Plants should be free of nematodes when bought. About
the only thing that can be done when plants in a rose planting are infested with nematodes is to give excellent care to the plants and hope that they will grow well in spite of the nematodes. Rose stocks resistant to nematodes have been used in some instances.

**FLOWERS FOR SHOWS**

In recent years there has been an increased interest among rose growers in the production of good specimen flowers for exhibition in rose and flower shows. The American Rose Society, local rose societies and garden clubs have been largely responsible for stimulating interest in this phase of rose culture. Competition between growers usually means that a better quality flower is produced for shows than would normally be grown.

In preparing a specimen hybrid tea, tea, or hybrid perpetual for exhibition the grower should begin three to four weeks prior to the time of the show. All flower buds on the stem except the terminal one should be removed soon after they have formed. The terminal bud should then make a larger flower.

Lateral or side buds on a specimen will cause it to be disqualified.

Roses are judged on form, substance, color, stem and foliage, and size. A high-centered or pointed rose is considered best for showing. Petals should be firm and fresh, not soft and wilted. The color should be typical of the variety. Stems should be straight and in proper proportion to the size of the flower. The foliage should not have any spray or dust residue, should be clean and not damaged by insects, diseases, wind or other causes.

The bloom should be as large or slightly larger than that normally produced by the variety. In the scale of points used in judging roses, size only counts 10 points; however, consciously or unconsciously, many judges appear to attach more importance to size than the scale of points indicates.

In general specimen blooms should be exhibited when one-half to three-fourths open. However blooms of some varieties are nearer perfection at an earlier stage and should be exhibited at that time. Specimens less than one-third open are considered as buds.

Blooms from varieties such as Eclipse should be exhibited when they are about one-third open to appear their best, while full double varieties like Peace are equally attractive when fully open.

Floribundas should not be disbudded for exhibiting in shows.

Flowers to be exhibited can be cut and placed in a refrigerator or cold storage two to three days prior to the show and still be shown.

**ROSES FOR FENCES**

Because of the publicity given the use of certain roses for fences and numerous inquiries that have been received, a little information on this subject might be helpful to some people. The multiflora rose is
the one that has been generally used. There are many types of multiflora roses. As understock a thornless type is desirable. For fencing purposes stiff thorns and an erect vigorous type of growth are considered essential. The plants may grow 8 to 10 feet high and have a similar spread. Where land is plentiful and the plants will make proper growth an excellent living fence is evidently obtained. It also makes good cover for wildlife. This type of fence can not be recommended for use on the ordinary home lot, because of the space occupied. If it is used the suggested distance between plants is one foot. Under good conditions a fence should be established in two to three years.

CONCLUSION

Roses have been growing in the experimental plots at L. S. U. for six years and have definitely shown that many excellent varieties of roses can be successfully grown in south Louisiana. Some varieties have done better than others. Plants can not be judged by one period of bloom, but flower production and growth over several seasons should be considered. Many people are still likely to be disappointed with roses in their own yards because they may not be able to meet all the requirements necessary for excellent rose production or because some have been neglected. It isn’t likely that anyone will do everything that should be done or do it always at the right time, but the more nearly it is done, the more likely the successful growing of roses will be accomplished. For emphasis, the following points, important for best success with roses, are stated again though they have been discussed in this bulletin:

1. Be sure that the rose bed has good drainage.
2. Have exposure to full sun if possible.
3. Prepare the soil well in advance of planting.
4. Get the best plants obtainable.
5. Plant varieties that are adapted to the area.
6. Set the plants at proper time of year and when the soil is not muddy.
7. Let the plants become well established before cutting blooms. Do not over cut.
8. Disbud when side buds are small.
9. Do not apply too much fertilizer.
10. Decomposed organic matter is beneficial.
11. Prune at proper times.
12. Irrigate thoroughly when necessary.
13. Control black spot and other diseases.
14. Control aphids, thrips and other insects.

The planting of roses should not be discouraged even though all qualifications can not be met. A rose garden that is only fair is far better than none at all.