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GARDEN ROSES

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OF THE
DEPARTMENT OF HORTICULTURE

MICHIGAN STATE COLLEGE
COOPERATIVE EXTENSION SERVICE
EAST LANSING

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GARDEN ROSES

Many types of roses are available for almost every use. Nearly all roses are useful as cut flowers. The best for the purpose are the bush roses, such as the Pernetianas, Hybrid Perpetuals, Hybrid Teas, Moss, Tea and some Polyanthas. They are also useful for growing in beds by themselves or as the main feature of a rose garden. The Climber and Pillar roses may be used to form the boundary of the rose garden or for training on trellises, pergolas, arbors, garden arches and as screens or for covering unsightly objects.

Some roses are valuable for various other purposes. The Rugosa, Prairie and Scotch roses, Sweet Briars, Hugonis and many other species are useful in the shrubbery border. Rugosa and Ayrshire roses are especially suitable for hedges. Hybrid Wichuriana, Hybrid Multiflora or Rambler and Prairie roses are valuable for covering walls or fences or planting along the roadside. Polyantha roses are useful for bedding and massing in groups in front of the shrubbery border, for bordering drives or for corner plantings at the intersection of walks and drives. For the rock garden there are many dwarf species and varieties which may be used.

WHERE TO PLANT

Select the site for a rose garden carefully. An open, sunny, south or southeastern exposure, protected from strong winds, is desirable. If possible, choose a somewhat elevated place protected either by trees, a hedge, wall or building where the sun will shine at least half the day, preferably in the morning. On low ground the plants are more likely to be injured by late spring and early fall frosts, and have a greater tendency to mildew.

Avoid the dense shade of large shrubs or trees or the proximity to their roots which will compete with those of the roses for moisture and nutrients. If it is impossible to have a rose garden free from the encroachment of tree roots, it may be advisable to construct an underground wall of concrete to keep the tree roots out of the rose garden.

Roses planted against a wall or building are likely to suffer from reflected heat and lack of ventilation. If only a few bush roses are to be grown they should be planted in borders along

paths or walks or in the garden away from the house. Climbers which are to be grown against a wall or building should be planted and trained on trellises as far as possible from the walls.

Soils

Most roses thrive best in a deep, rich, rather heavy well drained soil. A clay loam or heavy garden loam is usually preferred. Such soils are particularly suitable for Hybrid Perpetuals and strong growing climbers and pillar roses. The Teas, Hybrid Teas and Pernetianas often do better on lighter and warmer soils with less clay or loam. The Rugosas, Sweet Briars and some others thrive in quite sandy soil.

Good drainage is important. The plants will not thrive in a wet or soggy soil. A gravelly clay subsoil is ideal, provided surface moisture drains off readily. A slightly acid soil (pH about 6.0) is usually best.

How to Prepare a Rose Bed

Beds in which roses are to be planted should be trenched or excavated to a depth of 2 or more feet. If the soil removed is good, it may be mixed with one-third its volume of well rotted manure or one-fourth granulated peat and either ground bone or superphosphate (3-5 pounds per 100 square feet of bed surface) and thrown back into the bed. If the soil is poor it should be taken away and the bed filled with well decomposed soil and manure compost, or a mixture of two-thirds well chopped turf from a heavy loam soil and one-third well rotted manure with ground bone or superphosphate as recommended above.

Light sandy soils which cannot be entirely replaced may be improved by mixing a little clay or loam with them when trenching. Heavy, compact soils may be made lighter and more porous by adding sand, peat or leaf mold.

In deep sandy soils excessive leaching may be retarded by lining the bottom and one-half or two-thirds of the sides of the bed with puddled clay. In very heavy poorly drained soils, 4 to 6 inches of coarse gravel, small stone or cinders in the bottom of the bed will help take away surface moisture. If the subsoil is very retentive and surface moisture does not drain away quickly, tile drains may be necessary.

The beds should not be over $4\frac{1}{2}$ or 5 feet wide. Usually they are made only wide enough for two rows of plants, never more than three rows, planted in "stagger" fashion. It should be possible to reach every rose without stepping on the bed.

Planting

CARE OF PLANTS—Open packages and remove wrappings from plants as soon as they are received. Handle plants carefully to avoid breaking or bruising either tops or roots. Keep roots protected from drying out. If the roots seem dry, stand the plants upright in water in a shady place a few hours before planting. If you do not intend to plant them at once, and the tops are partially dried out, bury the whole plants in moist soil for a few days or until planted.

TIME OF PLANTING—Spring planting is best. Winter killing is often serious in fall-planted stocks, especially with Hybrid Teas and other less hardy kinds. If fall planting is done, a mound of earth with a mulch of straw or leaves to cover the tops of the plants will help prevent winter injury. Plants in pots or other containers with soil on their roots may be planted any time during the summer.

DISTANCES—Hybrid Teas may be spaced closer than most other kinds. The least vigorous varieties will do well 20 inches or less apart. The most vigorous ones need at least $2\frac{1}{2}$ feet. Most Hybrid Perpetuals need $2\frac{1}{2}$ feet. Polyanthas 2- $2\frac{1}{2}$ feet, Rugosas 4-5 feet, Hybrid Wichurianas and Multifloras 6-8 feet or more.

SETTING THE PLANTS—Dig the hole deep enough so that the plant may be set with the base of the branches level with the surface of the soil. Spread roots evenly and slanting downward in the hole. Press soil firmly around the roots. A few handfuls of moist peat thrown around the roots before filling in with soil is beneficial. Water thoroughly after planting. A mulch of well rotted manure, peat or leaf mold around the plants will help to conserve moisture.

PRUNING—Prune newly planted roses promptly and severely. Leave not more than five or six canes and cut these back to 4-5 inches above ground.

Summer Care

CULTIVATE REGULARLY to destroy weeds and to aerate the soil. Water during dry periods. Soak the soil thoroughly. Frequent light surface sprinklings may do more harm than good.

REMOVE SPROUTS OR SUCKERS which arise from the roots of grafted or budded plants. These may crowd out and replace the better flowering variety and should be removed before they have made any considerable growth. Remove the sucker at the point where it emerges from the main root by giving it a quick sharp pull. Cutting them off at the ground level is only a temporary measure, as the underground portion of the sucker sends out several new shoots.

The largest and best flowers of bush roses such as hybrid Teas for cutting purposes are obtained by *disbudding*. All flower buds except the central terminal ones are removed as soon as they are large enough to "rub out" easily. *Cut the flowers in the morning before the petals start to unfold.* Sever the stems so as to leave two strong buds above the point where they branch from the main stem. Plunge stems immediately into cold water. Keep in a cool room for 2-3 hours before using them.

FEEDING—Four to six weeks after planting an application of a complete fertilizer having a 4-12-4 or similar analysis is usually beneficial. Two to three applications or nitrogenous fertilizer such as ammonium sulfate or ammonium nitrate at the rate of $\frac{1}{2}$ -1 pound per 100 square feet will stimulate a more vigorous growth.

If the soil becomes very acid 1 to 2 pounds of lime per 100 square feet will usually correct the condition. If it becomes too alkaline, 1 pound of agricultural sulfur per 100 square feet will be beneficial.

Fertilize old established plants with 4-16-4 or similar analysis fertilizer, 3 to 5 pounds per 100 square feet, each spring. Sandy or other very porous soils may need larger amounts.

Winter Protection

Bush roses, especially the Hybrid Teas and other tender kinds, need winter protection. A mound of soil 6 to 15 inches or more in height around each plant is usually sufficient. Mounding should

be done just before freezing weather occurs. After the ground is frozen the whole bed may be mulched with 2 to 4 inches of manure, straw, peat, leaf mold or similar material.

Climbers may be protected either by wrapping the canes in burlap or heavy water proof paper or by laying the canes on the ground and covering them with soil, leaves, straw or similar material. Mulching of all roses is best done after the ground is frozen to avoid possible damage from mice.

Propagation

Commercially, roses are largely propagated by budding and grafting. Many kinds grow satisfactorily on their own roots and can be propagated by cuttings or some other method. Following are easy methods for the gardener who may wish to propagate a few plants for his own use.

LAYERING—Select a long slender branch and bend it carefully to the ground. Cut a notch in the under side of the stem, a foot or more from the end where it touches the ground. Cover with soil and place a stone on top to hold the branch in place. The work may be done any time during the summer, and the following spring the rooted branch may be cut off and planted in a permanent location.

DORMANT HARDWOOD CUTTINGS may be made in late fall or early winter. Cut wood of the past seasons growth into pieces 6 to 8 inches long containing two or three buds each. Pack cuttings in moist sand or peat and store in a cool place until spring, then set them out in nursery rows where they can be shaded and watered until roots are formed. The following spring they may be planted in the garden.

DIVISION—Many kinds may be increased by dividing the old plants or by cutting off rooted branches or suckers early in the spring and immediately planting them. This method cannot be used on grafted or budded plants.

Pruning

BUSH ROSES with long slender branches should be pruned back about one-third in the fall to prevent injury from whipping of the branches in the wind. The main pruning is done in early spring before the buds begin to swell. If large,

fancy flowers for cutting are wanted, severe pruning is necessary. If a large crop of average or small flowers is desired only a light or moderate pruning is needed.

HYBRID TEAS usually require severe pruning because of winter killing. Remove dead or diseased branches or leaders, then cut remaining branches back to live wood. When possible leave two or three buds or more on each stem. Weak-growing varieties should be pruned more severely than strong growing sorts.

WITH HYBRID PERPETUALS and other more hardy sorts, leave about three to five of the strongest stems. Light pruning consists of cutting the stems back one-third to one-half. Heavy pruning means cutting back to about 8 inches above ground. With varieties which are grown as pillar roses or as specimen plants, the main branches or leaders are pruned lightly or left unpruned and the side branches cut back to one or more buds.

POLYANTHAS require little pruning. Remove dead, diseased, and very old wood. No heading back is required except in cases of an occasional long leader.

RAMBLERS AND SMALL FLOWERED CLIMBERS—In July, cut out the canes that have flowered and train up the young canes produced from the base. Flowers will be produced next year only on those shoots.

LARGE FLOWERED CLIMBERS—Cut back the side shoots that have flowered, remove the old canes (2 or more years old) and train up only enough of the young canes to cover the desired area. They flower best on the older canes.

When pruning back branches and leaders of all roses, make the cut just above a bud that points outward from the center of the plant.

Disease and Insect Control

A dust containing 90 percent sulfur and either 10 percent lead arsenate or 3 percent DDT will control most diseases and insects. DDT will control some insects such as leaf hoppers which are not readily controlled with lead arsenate. If aphids (plant lice) become numerous use 40 percent nicotine sulphate (1 teaspoonful in 1 gallon

soapy water) or a 3 percent nicotine dust. Pyrethrum and rotenone are also effective. Use according to manufacturer's directions. Rose chafers may be controlled with a 10 percent DDT dust. Mites (red spiders) are best controlled by either syringing the plants with water or by dusting with rotenone.

Mildew, black spot and cankers are the most important diseases. Sulfur will control mildew and black spot if applied regularly once each week. During moist weather treat the bushes twice a week to control black spot. Gathering and burning dead parts of stems and diseased leaves which have fallen to the ground will also help control the disease.

Apply dusts in the morning when the leaves are moist with dew. Dust thoroughly so that all parts of the plants are covered. Cut out all stems affected with cankers and burn immediately.