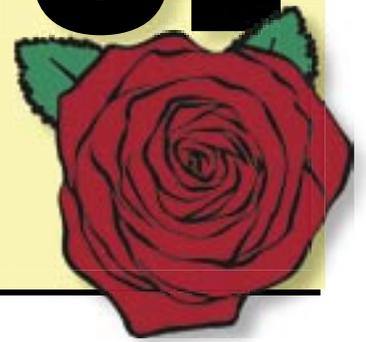


# WONDERFUL ROSES!



In the Ventura County Area, we are fortunate to have a long blooming season for roses. To grow beautiful flowers, you don't need to use pesticides and fungicides that may contribute to local water quality problems.

By choosing appropriate rose varieties, planting roses properly, and carefully following recommended cultural practices, you can grow roses that are less susceptible to pests and diseases. Roses have certain minimum requirements. If your soil drains slowly or you have a shady yard (roses need six hours of direct sunlight a day), look for plants that will be more appropriate for your garden.

The following tips can help you grow strong, healthy roses with glorious blooms while you protect your family's health and the environment.

## CHOOSING THE RIGHT ROSE

- Start with healthy plants. Look for glossy foliage and an evenly moist rootball. Avoid plants with spindly stems, discolored or spotted leaves, or roots coiled around the container.
- Choose rose varieties that are disease-resistant and suited to your particular climate. Some roses are difficult to grow successfully in the cool and foggy summers of our coastal areas but by choosing varieties noted for disease resistance and planting them in open areas where air circulation is good, your chances of success are much greater. One general rule of thumb in our coastal region that

applies to all plants is: The closer you live to the coast, the shinier the leaves and fewer petals on the flowers, the less chance for disease. No roses are completely disease-free, but many can be grown with minimal care.

- Visit a local rose garden at various times during the growing season to see what particular varieties look like and to learn about different roses' growing habits and requirements.
- Ask local gardeners and rosarians for suggestions and find people who are growing roses with minimal pesticides.
- Contact local rose societies, nurseries, and master gardeners for lists of roses they recommend for your area.

## PLANTING ROSES

### WHERE TO PLANT

- Roses need full sun, which means six hours of direct sunlight per day. Sunlight encourages blooms and discourages disease.
- Roses require good drainage. If you have a heavy clay soil it may be advisable to plant roses in a raised bed to avoid drainage problems. To check the drainage, dig a hole the size of a gallon jug and fill it with water. If the hole doesn't drain in one hour, you should choose another spot, or make a raised bed for planting the roses.

- Give your roses plenty of room to grow so that they won't be crowded, usually 3 feet in each direction. Get an idea of the mature size of the rose when you buy it. Good air circulation is crucial in preventing disease.
- Consider planting roses in mixed beds rather than traditional rose beds. Diversity of plants will attract beneficial insects and cut down on the spread of pests and diseases.

## WHEN TO PLANT

- Roses purchased in pots can be planted any time of year, but the best selection is available in nurseries from December to May. Potted roses can be planted immediately or remain in the pot for several months.
- Bare root roses (plants with no soil on their roots) are available December through February. Look for a plant with several green branches the thickness of a pencil with strong-looking buds low down on the branches and not in the advanced stages of budding. Bare root roses need to be planted in their dormancy. Plant them right after you buy them so they don't dry out. Soak the plants overnight in water before planting.

## HOW TO PLANT

### Planting in Containers

For container planting, choose roses that don't grow more than 4 feet tall. Choose a container at least 20" deep and wide. Use a premium commercial

potting soil, such as Whitney Farms or Fox Farms. You may also want to add organic matter such as compost or high-quality rose planting mix. Water well after planting.

### Planting in the Ground

- Dig a hole the depth of the container and at least two times the diameter of the container. For bare root roses dig a hole about 1½ times as deep and wide as the root system is long. Within the hole, prepare a mound of native soil for the rose to rest upon. Roots need to reach out laterally as far as possible in order to take advantage of water and nutrients.
- Do not amend the soil in the planting hole. Research has shown that soil amendments are not necessary in most soils, including clays.
- Place the rose in the hole so that the bud union (the knobby part of the trunk where the rose was grafted) is 2" to 3" above the soil. By planting the graft above ground, you are less likely to get suckers and growth of the rootsock instead of the variety you bought. For roses grown on their own roots, look for the "root crown," the area where the roots meet the trunk. Plant with the root crown above the soil, but not so high the roots are exposed.
- Fill in the hole with the soil you removed and gently tamp it down.
- Water thoroughly. If the rose sinks after watering, you may need to remove it and replant higher keeping the soil from touching the root crown or to keep the bud union at least 2" above the ground.
- Apply a 2" to 3" layer of organic mulch (on top of soil) around the plant, building a watering basin to help direct water to the root zone. See below for more details.

## CARING FOR YOUR ROSES

### WATERING

The amount of water your roses will need depends on the climate and the weather, the type of soil, and rose. In areas with summer fog, roses will need less water than in areas with summer heat. You will have to water more fre-

quently if you have sandy soil than if you have clay soil. It is important to give your roses the right amount of water. Waterlogged soil will kill roses, and drought conditions can stress plants, making them more susceptible to pests and diseases.

- Keep the soil moist. Use your finger to test the soil and check roses in pots at least twice a week.
- Watering with soaker hoses or a drip irrigation system delivers water to the soil without wetting the foliage. This can help prevent fungal diseases. If you water with a sprinkler, water early in the day so the foliage will dry out before evening.

### FERTILIZING

Roses prefer a slightly acidic soil (pH 6.2 to 6.8) that is not high in salt. Fertilizers such as alfalfa meal, cottonseed meal, blood meal, and bat guano can acidify the soil.

- Maintain healthy plant growth, but do not over-fertilize with high nitrogen fertilizers. Too much nitrogen can over-stimulate succulent plant growth, prompting pest and disease problems. Organic or natural fertilizers (examples listed below) are better because they slowly release moderate levels of nutrients. Organic materials, like compost, will also improve soil structure and moisture retention and improve food for essential soil organisms.
- If you have sandy soil that is poor in nutrients and organic matter, you may have to fertilize every month during the growing season. Roses growing in clay soil containing organic matter may need fertilizing only once a year.
- Avoid using fertilizer/systemic insecticide combinations. These can cause stunted and deformed leaves, especially in cool weather. They may also harm soil-dwelling organisms.
- Do not fertilize until the leaves unfurl and change from red to green.

### MULCHING

Mulching with organic materials, like compost and shredded leaves, helps to conserve moisture, control weeds, improve soil structure, and keep roots cool in summer heat. Mulch can also prevent the spread of diseases like black spot by keeping disease spores from splashing up onto the plant from the soil. Spread

a 2" to 3" layer of mulch around each plant, keeping the mulch a few inches away from the trunk.

### PRUNING

Careful pruning can keep roses healthy and help prevent disease and pest problems. Pruning allows you to remove dead, spindly or diseased plant material, helps to shape plants and promote flowering and new growth, and provides good air circulation to discourage diseases.

- During the growing season, remove any leaves and shoots affected by disease. Don't prune too heavily because the plant will respond with new, succulent growth that is susceptible to aphids and powdery mildew. During January pruning, remove any diseased portions of the plant.
- Good sanitation is essential in reducing disease problems. Diseases can easily be transmitted from infected plant material lying on the ground or gardening tools, such as hand pruners. Remove all diseased prunings and any diseased leaves and blooms as they fall. Do not compost them unless you have reliably hot compost you turn regularly. Clean pruners with an alcohol-water solution if they have been used on a diseased plant.
- The modern Hybrid Tea Roses and Floribundas only produce flowers on new growth so prune to remove last year's wood. Cut bushes back every January, leaving 2/3 of the canes' height at the base for light pruning, 1/2 of the height for medium pruning, and 1/3 of the height for heavy pruning.
- Arching shrub roses should be pruned lightly to retain their naturally elegant shape. Thin the canes so they do not cross or rub, and cut back the lateral shoots.
- Climbers should also be pruned lightly. Don't cut back long canes. Train them into a horizontal or diagonal position to encourage lateral shoots that produce flowers along the cane rather than just at the tip. Trim back lateral shoots to 2 or 3 nodes. Remove canes that cross or rub.
- Roses that bloom once in the spring should be pruned right after they have flowered.

## MANAGING COMMON ROSE PESTS & DISEASES WITHOUT PESTICIDES

Inspect plants regularly to detect any diseases or pests before they become a problem. Become familiar with the pests and diseases that are common in your area. Before you treat plants for insect problems, look for beneficial insects such as ladybugs, lacewings, syrphid flies, and orange and black soldier beetles. If you see these natural enemies of rose pests, refrain from using an insecticide because you will kill more useful insects than pests. (See following page for less-toxic chemical control for rose diseases.)

### APHIDS

#### Symptoms:

Tiny ( $\frac{1}{8}$ "), sucking insects that feed on plant sap. Often found in clusters on new shoots and flower buds, especially on over-fertilized plants. May cause leaves to discolor or turn black with sooty mold. Natural predators can reduce their numbers.

#### Controls:

Wipe off by hand or spray off with water, spray with an insecticidal soap, prune off severely infested growth, use natural fertilizers to prevent growth spurts.

### BLACK SPOT

#### Symptoms:

Circular black spots with fringed edges on leaves and stems. Leaves may yellow and drop. Spores overwinter on infected stems and fallen leaves and are spread by splashing water, cultivation, air currents, and insects. This disease is common along the coast. Inland it may indicate excessive moisture, insufficient light, or poor air circulation.

#### Optimum conditions for infection:

- In our region, conditions for growth and spread of the black spot fungus are most likely to occur in spring and fall. However, rainy periods in any season encourage black spot.
- Presence of infected plant material
- Susceptible plant tissue
- Splashing by rain or watering
- Leaves that stay wet for 24 hours or longer.

#### Controls:

Choose resistant varieties, prune away and destroy infected plant material, increase air circulation, destroy fallen leaves, mulch to prevent spread of spores.

### POWDERY MILDEW

#### Symptoms:

Curled leaves and a white or gray powdery coating on leaves, shoots, and flower buds. Spores overwinter on leaves and leaf buds, and are spread by wind. Note that infection of one plant type does not necessarily mean that other plant types are threatened. For example, the fungus that causes powdery mildew on hollyhocks does not spread to roses and vice versa.

#### Optimum conditions for infection:

- Most powdery mildew fungi produce airborne spores and infect plants where roses are subjected to warm, cloudy days and cool humid nights. Although high humidity increases spore production, water films actually suppress their growth. Powdery mildew will not be present during the hottest days of summer.
- Presence of infected tissue on the plant
- Vigorous, succulent plant growth
- Powdery mildew is most active during warm, dry summers.

#### Controls:

Plant disease-resistant varieties, wash leaves in early afternoon with a strong spray of water allowing time for foliage to dry out, avoid heavy fertilization or heavy pruning that causes spurts of new, highly susceptible growth.

### RUST

#### Symptoms:

Small orange or yellow spots on any green portion of the plant. On the leaves, symptoms start on the undersides and progress to the upper surfaces. Infected leaves may drop. Overwinters on leaves and stems and is spread by wind and water.

#### Optimum conditions for infection:

- The rainy seasons of spring and fall favor development of rust in our coastal areas of California and may also be a problem inland during wet years. Cold winters and very hot summers limit development.
- Presence of infected plant material
- Wind to blow the spores, followed by moisture on the leaf for 2 to 4 hours
- Alternating periods of weather that wet and then dry the leaves.

#### Controls:

Choose resistant varieties, remove and destroy fallen leaves, mulch to prevent spread of spores, remove and destroy infected shoots (look for dark, corky lesions).

## LESS-TOXIC CHEMICAL CONTROLS

If disease or pest problems are persistent in your garden, you may use one of these less toxic chemicals. Because these products prevent but do not cure disease, treatments must begin before symptoms are widespread. Be sure to coat both sides of the leaves. To decrease the possibility of burning leaves or flowers, water plants the day before you treat them and test a few leaves and petals before spraying the whole plant.

- Potassium bicarbonate (Kaligreen®) is similar to common baking soda and can be used to prevent powdery mildew. It must be applied weekly. Or, use this mixture: 1 tablespoon baking soda (sodium bicarbonate), plus 1 tablespoon horticultural oil in 1 gallon of water. Spray a little on lower leaves before covering the entire plant to make sure it doesn't burn the foliage. If it does, use half as much baking soda and horticultural oil to a gallon of water. Apply this material on foliage and stems when you first detect disease, and repeat when new symptoms appear. Use caution to keep the spray confined to the plant, reducing the potential for sodium bicarbonate buildup in the soil.
- Fish emulsion/seaweed (kelp) Many rosarians have achieved excellent

results by applying these mixtures normally used in foliar fertilization applications. Mixed and applied per label directions, it is possible these ingredients encapsulate the fungi and prevent the spread of spores to neighboring, non-infected areas.

- Sulfur and lime can be effective against black spot, powdery mildew, and rust. Do not use when temperatures exceed 85°F because you will burn the leaves.
- Antitranspirants such as Cloud Cover® or Wilt Pruf® and horticultural oil (Sunspray Ultrafine®) have been observed to provide roses with protection from fungal diseases. They create a thin coating that can prevent spores from fungal diseases from invading the leaves. Begin treatment when new leaves appear in spring and repeat whenever you see new growth. Cloud Cover® in its ready-to-use form is too strong for roses. The concentrate can be mixed 1 part Cloud Cover® to 12 parts water to prevent burning. Use a 1% solution of horticultural oil and water (about 3 tablespoons of oil in 1 gallon of water).
- Neem oil (Rose Defense®) can help prevent powdery mildew, black spot, and rust. Repeat treatment every 7 to 14 days. Because Neem oil can be toxic to bees, it is safest to spray in the evening.

## RECOMMENDED READING

American Rose Society, 1998. Handbook for Selecting Roses. Shreveport, Louisiana. 318/938-5402.

Steve H. Dreistadt, 1994. Pests of Landscape Trees and Shrubs. Berkeley: University of California Division of Agriculture and Natural Resources.

Maggie Oster, 1994. The Rose Book. Emmaus, Pennsylvania: Rodale Press, Inc.

## RECOMMENDED WEB SITES

American Rose Society: <http://www.ars.org/>

Bugs and Roses Home Page: <http://www.jps.net/rosebug/>

Santa Clara County Rose Society: <http://mejac.palo-alto.ca.us/orgs/scrcs/>

## PRODUCTS

Examples of trade names of products listed in this fact sheet

**Potting Soil:** Whitney Farms; Fox Farms

**Fertilizer:** Whitney Farms Rose & Flower Food (4-6-2) or Dr. Earth Organic 8 Bud & Bloom Booster (4-10-7)

**Potassium Bicarbonate:** Kaligreen®

**Antitranspirant:** Cloud Cover®; Wilt Pruf®

**Horticultural Oil:** SunSpray Ultrafine®

## PESTICIDES & WATER POLLUTION

Pesticides can damage our health and kill beneficial insects necessary for a healthy garden. Common household pesticides show up in our waterways, sometimes at levels that can harm sensitive aquatic life.

The County of Ventura Environmental and Energy Resources Department is working with local nurseries and hardware stores to reduce the risks associated with pesticide use. This fact sheet is part of a series of informative publications and store displays designed to educate Ventura County residents about less-toxic pest management.



Look for the "Our Water Our World" logo next to products in participating nurseries and hardware stores throughout Ventura County. For a list of participating stores, call 805/289-3333 or visit <http://www.wasteless.org>

Pest control strategies and methods described in these publications are consistent with Integrated Pest Management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. IPM is an environmentally sound approach to pest management combining various methods with good horticultural practices. Follow all label directions on any suggested products. NO endorsement of specific brand name product is intended, nor is criticism implied of similar products not mentioned. Different products with the same active ingredients are equally suitable.

## HOUSEHOLD HAZARDOUS WASTE COLLECTION PROGRAMS

Most cities offer FREE monthly collection events that accept pesticides, fertilizers, latex and oil based paint, motor oil and filters, car and household batteries, pool chemicals, stains, solvents, fluorescent light tubes, automotive fluids, cleaning products, photographic chemicals and more. For more information and collection schedules call 805/289-3333 or visit [www.wasteless.org](http://www.wasteless.org).

## FOR MORE INFORMATION

Participating stores have been provided books on Integrated Pest Management (IPM) you may use while in the store. The store staff has been extensively trained in IPM to assist you.

The Certified Master Gardener Program operated by the University of California Cooperative Extension provides a free assistance Helpline and offers a variety of workshops and school education programs. Call 805/645-1455.

### Check these websites:

<http://www.watoxics.org>

<http://www.ipm.ucdavis.edu>

<http://www.pesticide.org/factsheets.html>

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