

Rose Care

1-2-10

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Placement

Most roses, especially the popular hybrid teas, perform best with full sun. Many landscape and antique varieties will do fine in up to half shade. In hot inland areas roses look best with afternoon shade. Keeping roses far apart, away from walls, or from anything that can block air circulation can minimize diseases. Good air circulation allows the foliage to dry quickly following irrigation or rain, preventing several leaf diseases. If the garden is more than 20 miles inland (lower humidity), this becomes less of a problem. In a row of hybrid tea, grandiflora, or floribunda roses, 3 feet is the recommended minimum spacing between plants. Closer spacing promotes pests and diseases. Rose plants perform very well planted singly among other plants in a landscape.

In formal rose gardens the plants are commonly placed in a double row. The roses are planted on 3-4 foot centers with six feet between the two rows. There is an access walkway on each side.

Roses often make the strongest visual impact when placed in groups of the same variety. In the front yard we recommend a minimum of 2 per variety for visual impact. For ease of care avoid placing rose bushes in rows more than 1 deep unless access is provided for maintenance.

Soil

Roses can tolerate and perform well in any soil but grow most vigorously when the soil has great aeration. Soil is best aerated by incorporating pumice, sponge rock, decomposed granite, or coarse sand. Rice hulls and peat moss can also help. *Laguna Hills Nursery Planting Mix* (containing

pumice and peat moss) gives excellent results at 1 sack for every 5-10 square feet of rose bed. Compost and organic mulches and other commercial planting mixes belong in a 2-3 inch thick layer on top of the soil. Decomposing organic material is the energy source to keep soil alive, and although it may initially provide a good growing environment the plant's roots are eventually damaged or stunted if it is incorporated into the root zone. Fortunately rose roots adapt readily to soil conditions unsuitable for many other plants.

Many serious rose enthusiasts will grow roses in raised beds. The soil in raised beds is naturally well aerated which results in accelerated growth and easier maintenance.

Roses also perform well in containers. Miniatures require containers at least 8 inches wide. Larger roses should have containers at least 18 inches wide. Our *Gary's Best* **ACID MIX** and **TOP POT** potting soil are excellent soil for containers.

Water

Roses love water. Roses can be irrigated by hand or using sprinklers, bubblers, or drip irrigation. During warm weather water at least every 2 days. Daily irrigation is fine. A mature rose bush may use 2 gallons of water on one hot day. Mid morning to noon is the best time to water because we want the leaves to dry off quickly (minimizing disease problems). During the hottest weather of the year sprinkling the rose plants at any time of day is fine.

Roses do not perform under dry conditions. If the soil is dry the rose plants stop growing and stop blooming.

Many large rose gardens use sprinklers for a short period every day. The force of the water knocks insects and mites off the foliage and actually inhibits diseases as long as it dries within a few hours.

Fertilizer

The easiest and best long-term way to feed roses is with organic fertilizers. Organic fertilizers typically contain all 17 minerals that plants are made of and

also feed the soil keeping it healthy and loose. Chemical fertilizers do not commonly contain more than ½ the minerals required and the soil can become hard and sterile. Over the years chemical fertilizers are difficult to balance and the plants often become chlorotic. The most accurate chemical fertilizer is probably *Grow More Magnum Rose Food*, which was created for the famous rose garden at Rose Hills Memorial Park in Whittier.

At our store we have used *Dr. Earth Rose and Flower Fertilizer* (organic), *E B Stone Rose and Flower Food* (organic), *Concern Weed Prevention Plus* (corn protein). At my own home I will often use chicken manure also.

In the ground most organic fertilizers are usually effective for 2-4 months, while chemical fertilizers are good for 2-6 weeks. Container-grown plants require more frequent applications, generally at least once per month.

In a well-established organic garden, a dressing of rich compost applied at least twice per year is often sufficient.

In studies done in Texas it was found that fertilizing year round gave better results than not applying fertilizer during the cooler months (October-February).

Pest Control

Although there are many pests that attack roses, there are relatively few that get serious enough to warrant control, unless the homeowner wants a perfect garden. At my home there have been a number of years where pest control was not necessary.

Aphids are the small, olive to amber-colored, lice-like insects that appear in large colonies on the new growth. They usually make an appearance in late winter and early spring. Heavy infestations cause malformed leaves and flowers and cover the foliage with sticky honeydew. Aphids are eventually controlled by natural predators (ladybeetle, syrphid fly, and tiny parasitic wasps) and usually aren't a problem after the first bloom cycle. Apply either

Bayer Rose and Flower Insect Killer (spray) or *Spectracide Immunox* if you can't tolerate their presence. We don't recommend the systemic granular products because of their high mammalian toxicity. A sharp stream of water, oil sprays, and soap sprays can be effective if repeated several times.

Flower Thrips are small sliver-size bugs that feed on opening flowers and cause warping and browning of the outer petals. Damage is most severe on light-colored roses mid-spring to summer. Control a bad case of thrips by cutting off and discarding all open flowers at one time and then spraying all opening buds (just as they show a crack of color) with *Bayer Rose and Flower Insect Killer* (RTU) or *Spectracide Immunox* (RTU). **Spinosad** is a new organic spray that works very well. Treating the opening buds for two weeks usually ends the thrips attack for the year.

Rose Slug is actually the caterpillar-like larva of a wasp-like insect called a sawfly. These larvae skeletonize the leaves in mid-summer creating a lace-like pattern. These pests are common along the coast and may infest inland gardens at times. Rose slug is easy to kill with just about any pesticide, however there are many generations during the year and a long lasting pesticide like *Bayer Rose and Flower Insect Killer* (spray) is less labor intensive. **Spinosad** is a new organic spray that can provide control for 2 weeks.

Spider Mites are tiny spiders that spin fine, almost unnoticeable webs, and are often found on the backside of older leaves late spring through fall. The leaves become dusty and gray green often with brown margins. Spider mites inject toxins as they feed and the plant will stop growing and blooming. Plants with heavy infestations should be stripped of leaves and sprayed with a sharp stream of water every week for a month, or treated with a horticultural oil. Natural predators normally control spider mites and outbreaks seem to only occur on isolated plants or following the use of certain pesticides (**Orthene, Isotox, Orthenex, Sevin**) that upset Nature's balance. Avoiding use of these products is wise.

Cane Borers are insects that find freshly cut rose stems and drill into the pith causing dieback of the last 2-6 inches of that stem. The damage isn't severe, but can be prevented by putting a drop of household white glue or fingernail polish or pruning tar on the end of the cut stems following pruning.

Grasshoppers, Caterpillars, and Fruit Beetles often eat large holes in developing flower buds. Use **Spinosad** or **Bayer Rose and Flower Insect Killer** to treat.

Rabbits, Rats, Mice and **Deer** can strip leaves off entire branches and even consume portions of stems. Rabbits and deer can be stopped with proper fencing. Treating the foliage with products that taste bad (chili, garlic, etc.) will discourage all of these.

Disease Control

Experienced Rose growers know that each variety of rose has a unique susceptibility to diseases. There are many roses that we have never had to treat for any disease. Most rose diseases are promoted by rainy weather conditions. Locally the most commonly encountered disease is mildew which prefers our cool, humid, dry spring weather. Typically I will treat the roses at my home for Powdery Mildew about a half dozen times per year.

Powdery Mildew is an external fungus that covers newer foliage with a white or gray mold. Our high humidity and moderate temperatures that occur between April-July and October-November promote mildew. Powdery Mildew spores germinate under dry, but humid, conditions. Favorable conditions for mildew are 40-99% humidity and 60-80°F. Mildew doesn't like rain or wet leaves. Untreated foliage becomes warped and permanently damaged if not treated within a few weeks. Severe infection causes cessation of growth and blooming. When the mildew has been on the foliage for more than 2 weeks it is best to trim off the affected foliage. **Green Light Rose Defense** (Neem seed oil) or any high quality "horticultural oil" can cure recent infections. Applying these oils every 7 to 10 days (when needed) will keep roses in good health.

A similar excellent cure was developed 80 years ago by Cornell University. Mix 2 teaspoons of Baking Soda and 2-4 tablespoons of a horticultural or a vegetable oil (Canola oil or **Summit Year Round Spray Oil**) in 1 gallon of water with a wetting agent (**Monterey-Nature's Own Spray Helper** or a few drops of dish soap). Keep shaking the solution so that the baking soda doesn't settle. Apply every week to susceptible rose foliage. We use this formula at our store for many years.

Longer term control can be achieved by using chemical controls like **Bayer Disease Control** or **Spectracide Immunox**. Serious rose growers may wish to use fungicides like **Banner Maxx** or **Compass**, which control most rose diseases for 2-3 weeks.

Rust is a fungus that causes leaves to turn yellowish and develop small patches of powdery orange spores on the bottom side. There are actually several species of rust and the spores can be orange, red, or black in color. Rust fungus can attack leaves that remain wet for 2 hours or more during mild weather. Rust spores travel by air. Rust spores germinate at temperatures between 59°F and 70°F. Spores start dying when temperatures exceed 82°F. Besides rain and drizzle, overhead irrigation before 8am or after 2pm can cause infection. Pulling off all the infected leaves will eliminate rust. The products that are most effective at preventing and curing rust are **Banner Maxx** and **Compass** mentioned above. **Bayer Disease Control** and **Spectracide Immunox** may also provide protection.

Because rain is the primary cause of rust, I delay winter pruning (see next page) the roses at my home until April. Most of our rainy weather is over by then and the new growth that emerges a few weeks later is less likely to be infected. Using this method I will only have to strip my rose plants once per year, plus they have been blooming all winter.

Black Spot is a fungus that creates large fuzzy black spots and yellow patches on mature rose leaves. Black Spot, like rust, attacks wet foliage. Black Spot spores germinate if covered with water for at least 7 hours. The disease causes most trouble at 64°F to 79°F. Temperatures above 86°F

kill germinating spores. Spots form 10-20 days following germination. It can be cured and prevented using the same techniques we utilize for control of Rust. There was no Black Spot in Southern California until the early 1990's.

Downy is a fungus that causes rose foliage to turn yellow and fall off. Downy attacks roses during cool wet weather. Downy spores germinate if covered with water for at least 4 hours, but may germinate in high humidity also. Downy can operate at temperatures between 41°F and 80°F. Defoliation can occur in as little as 3 days. It often causes permanent damage to rose canes. Damaged canes show red or purple lesions in the shape of blotches, bands, or cracks, or as a ring surrounding attachment points of branches and leaves. 80°F weather halts the disease, however, stems showing lesions should be cut off below the infected areas. **Agri-Fos** is the best fungicide to stop and prevent infection and is relatively non-toxic. Downy first appeared in Orange County in the mid 1990's. The majority of homeowners never see Downy.

Rose Mosaic Virus is a disease present in many rose plants. It is visible as irregular yellow or cream mottling of the foliage. It can lower the plant's vigor, especially during cool weather. Symptoms usually disappear during summer. It is virtually impossible for an infected plant to transmit Mosaic virus to an adjacent healthy rose. It cannot be cured, but is less noticeable in vigorous plants. It is often not recognized until a plant encounters less than favorable growing conditions. Fortunately most of the roses currently being sold are virus free.

Anemic Rose Replant Syndrome occurs when new roses are planted in old rose beds. The soil in established rose beds is filled with countless small rose roots. Disturbing the soil to plant a new rose will sever and kill a large number of existing rose roots. These dying and decaying roots will seriously affect the health of any new rosebush for the next 2-5 years. Nearby established roses will show no effect. Unrelated plants installed in the area will not be affected either. To avoid the problem replace the soil about 8-10 inches deep and 2-3 feet wide with soil from a distant part of your garden, or purchase sandy soil in bags or bulk, or use a few sacks of our *Laguna Hills Nursery Acid Mix*.

Applying Pesticides

Our goal is to apply as little chemical as necessary to keep our roses looking good.

Many pesticides are available in ready-to-use (RTU) containers. These may be adequate for rose gardens of less than 20 plants. For larger gardens it is less expensive to purchase pesticides in concentrate form and a sprayer to apply them.

The most accurate sprayers are the pressure sprayers (hand trigger sprayers and hand, electric or gas powered pressurized tank sprayers). Hose-end sprayers are quite inaccurate.

When mixing your own pesticide solution use the following steps:

1. Add half of the water to the sprayer tank.
2. Add the pesticide concentrate.
3. Add the spreader sticker. This will help the pesticide stick to the foliage.
4. Add the rest of the water.
5. Close the tank
6. Shake and pressurize.
7. Apply to rose. Virtually all pesticides are most effective if both sides of the leaves are covered with a thin film. Try to avoid excessive dripping.
8. Do not leave chemical solutions in the sprayer for more than one day. Our alkaline tap water will break down the product.
9. Sprayers should be rinsed 3 times with tap water after use. Any leftover chemical or rinse water should be applied to the soil in the garden.
10. Store sprayers in a dark closet, otherwise algae will grow in the tank. Do not use the same sprayer to apply herbicides.

Always follow directions on the product label.

Pruning

Dead Heading Any rose will bloom more if the spent blooms are cut off (dead headed) before they spend energy making seeds. There are many methods rosarians utilize for different kinds of roses, but none are clearly superior.

The most common rule used is to cut the stem with the spent bloom down to just above the highest 5-

leaflet leaf. (A rose leaf consists of a leaf stem connected to 1-7 pinnately arranged leaflets) The leaves closest to the flower usually have fewer than 5 leaflets.

If you want the most flowers possible just remove the spent flower. Plants pruned lightly will bloom heavier with smaller flowers. If you want the biggest flower possible, cut the stem down to just above the lowest 5-leaflet leaf on the stem. The more severe a stem is pruned the longer it takes to develop the next bloom and the larger it becomes. The largest flowers occur on canes that originate near the base of the plant. The largest flowers also develop during cool weather when growth is slower.

Rose plants grow taller all year as they branch upwards off of the lower canes. By late summer the stems should be cut into older growth below a branch point to keep the bush compact.

Because our local climate is so mild a rose plant can be pruned heavily any time of the year.

Winter Pruning Traditionally in Southern California modern roses have been pruned heavily and stripped of all foliage in winter. Although locally grown roses rarely go dormant (every so often we will have a cold winter period with night temperatures in the 20's) the "winter pruning" is performed to eliminate all diseases and pests at one time and create an esthetically pleasing (more compact) form. In colder climates roses are pruned after the snow melts in the spring. The instructions given in most modern texts make more sense in harsher climates where you would be faced with many dead and dying branches following the spring thaw. In our mild climate, unless there is a bad disease problem, rose plants can be shortened one branch at a time between blooms.

In my own garden I now do my "winter pruning" in spring, but I remain flexible. About every 10 years we'll have a bad frost that defoliates the bushes in December or January and I'll prune at that time. Sometimes there is a Santa Ana wind in fall that strips off all the foliage. If fall or early winter rains are heavy, the foliage is often so badly diseased with rust that I'll prune in January. There have been a few years where I skipped the winter pruning with no apparent detriment to performance.

In a typical year I'll allow my roses to keep blooming during the winter months, dead heading normally. During cool weather my roses often produce their most spectacular flowers. Between mid March and mid April, when my roses have just finished a bloom cycle, I will do my "winter pruning" using the following steps:

- 1) Roughly prune each plant to the desired height. I prefer to cut hybrid tea roses down to 12-18" (shorter canes promotes fewer, but larger flowers), floribundas to 24", English roses to 30", and leave climbers full length. The final cut should be just above a bud facing the direction you wish the new growth to go.
- 2) Remove small, highly branched growth that isn't producing flowers.
- 3) Remove canes or portions of canes that show disease lesions.
- 4) Provided there are enough canes to keep the plant roughly symmetrical, eliminate the oldest ones. We like to start the new season with 3-5 canes on a hybrid tea, more on other rose types. On climbers, remove canes older than 3 years.
- 5) Strip off all diseased or infested leaves.
- 6) Clean up the rose bed. I remove all the old mulch, fallen leaves, and shriveled petals that were covering the soil.
- 7) Fertilize. Some years I'll dress the entire bed with a dusting of chicken manure. Alternate years I'll use a compost.
- 8) Cover with a new layer of bark. My favorites are **Bark Mulch** and **Cedar**.
- 9) Sprinkle everything lightly, but thoroughly to settle the mulch.
- 10) There is no need to use a dormant spray. Lime sulfur is supposed to help sterilize the bed of diseases, but apparently is not effective. Diseases can start when the wind blows in fungal spores from nearby communities.

Calendar of Pests & Diseases

During the warmer months of the year there are certain pests or diseases to expect

January none

February none

March Rust and Aphids

April Flower Thrips and Rust

May Mildew, Flower Thrips and Rust

June Mildew and Rose Slugs

July Rose Slugs

August Rose Slugs and Grasshoppers

September Rose Slugs and Mildew

October Rust and Mildew

November none

December none