

HOW TO GROW BEAUTIFUL ROSES

by Jim Grilliot

Seminar given at Home Depot

I. **THE "RIGHT PLACE"**

A. **Southern California is different**

1. USDA Zones 9-11; this means freezing temperatures are a rarity.
2. Without freezing temperatures, there is no concern with winterizing roses or selecting the "hardy"
3. rose that can survive the winter weather.
3. Roses in So. California generally produce 5-6 bloom cycles per year beginning in mid-April and continuing on roughly 6 week cycles through November/December. Unlike So. California, many areas of the country get two blooms – Spring and Fall.
4. Other differences include time to prune, planting techniques such as location of rose plant bud union with respect to soil surface, soil preparation (pH), type of diseases and insects, growing characteristics, and many more. Bottom line – (1) If you're from back east, what may have worked for you back there may not work for you out here; and (2) recognize that national publications and other information sources that tell you how to grow good roses may not address the specific needs of S. California.

B. **Selecting the "Right Place" in your garden**

1. Roses require a minimum of 5-6 hours of sun per day. Some roses may grow in partial shade, but quality suffers. Some of the problems with lack of sun include: Leggy growth, reduced flowering, susceptible to fungal infections, especially powdery mildew, overly damp soil fosters root rot
2. A southern exposure is optimum; try to avoid a northern exposure. In So. California, the sun is always tilted toward the south as it rises in the east and travels across the sky in a western direction. The southern tilt of the sun ranges from 80 degrees above the horizon (June 21st) to 36 degrees above the horizon (December 21st).
3. If you have a choice between morning sun and afternoon sun, the morning sun is preferred over the hotter sun of the afternoon.
4. Avoid planting roses in areas shared with trees. Tree roots are evasive and compete for soil nutrients. Trees provide shade blocking out the sun which is critical for photosynthesis
5. Avoid planting roses too close to other roses. Root competition and poor air circulation fosters disease.
6. In So. California, the minimum spacing is 36" for HTs, 24" for miniatures and 48" for climbers and large shrubs.
7. Avoid planting against unprotected or barren walls. Poor air circulation fosters disease, reflected light/heat can lead to heat stress. Climbers should be espaliered
8. Avoid planting in areas with poor soil or inadequate soil preparation. Known area contaminated with chemicals, e.g., dumping area for residual oil or paint cleaning solvents. Replacing an existing rose with a new one without cleaning out the old rose roots causing "soil sickness."
9. Container grown roses are good for the patio or other similar areas. Use the right containers, i.e., 20" (15 gallon) for HTs, 15" (10 gallon) for floribundas and 4-7 gallon for minis. Climbers don't do well in containers for So. California. Containers must have holes for drainage. Use cut-out galvanized screen at bottom of pot to prevent/mitigate soil loss. Do not use saucers under the rose container as the resulting collected water can kill the rose! Collected water at the bottom of the pot exposes the roots to constant root immersion impairing root respiration. "Roses don't like wet feet." Place rose containers/pots on pot "feet" or pieces of flat brick on the bottom of the pot – keeps roots dry by promoting root respiration/aeration

II. SOIL PREPARATION:

A. Preparing potting/container soil, i.e., soil for planting a bare root rose or planting a potted rose in a larger container, e.g., from 5 gallon pot to 15 gallon pot

1. The easiest approach is to simply use a good potting soil (100%) without adding any extra soil amendments or fertilizers.
2. NEVER use 100% garden soil as it lacks the necessary drainage requirements.
3. Another good soil blend for pots is to mix 1 part quality potting mix (containing peat moss and other organic ingredients), 1 part Perlite. Add enough mix to pot so that positioned bare root or root ball bud union (when sitting on mix) is about 1-2 inches from top rim of pot. After adding sufficient mix, remove bare root or root ball, then add ¼ cup of superphosphate (1 TBSP for Minis) on top of mix. Then position bare root or root ball and begin backfilling with remaining mixture of potting soil and Perlite.
4. Another good soil blend for pots is to mix: 1 part potting soil, 1 part Perlite or vermiculite or coarse sand or pumice 1 part peat moss, or mushroom compost or kelp or other organic materials (of any combination) as described in above "3", add mix to the pot with superphosphate on top of mix so that the positioned bare root or root ball is setting on top of superphosphate and then begin backfilling. As an optional step, for the last 3-4 inches of remaining backfill, mix the backfill mixture with 1 cup of organic fertilizers consisting of: ¼ cup of blood meal, ¼ cup of fish meal, ¼ cup of alfalfa meal and ¼ cup of bone meal. If you choose not to do the optional step, simply top off the pot with remaining backfill but leave the last 1 inch for nitro humus. The rich organic materials on the top of the pot will promote/increase microbial activity thereby providing nutrients to the new/developing feeder roots as well as acting as a mulch by retaining moisture and proper aeration/respiration.
5. When "topping-off" the pot with backfill and/or nitro humus, always leave a minimum of 1-2 inch space between the soil surface and the top of the pot rim so that when you water, a sufficient amount of water can collect without running over the sides.

B. Preparing soil for a large, unplanted area, e.g., new rose bed, new landscaping, or preparing soil in area without any existing plants when you know that the soil is poor, i.e., lack of organic nutrients, poor drainage, composition is hard clay, contaminated soil, etc. If the condition of your soil is questionable, have it tested before you do anything! I recommend 1 of 3 approaches:

1. Approach #1. Remove/Replace existing soil with new loam top soil. Dig out existing soil going down to a depth of 12-18 inches. Discard old soil and replace with loam top soil (not potting soil) that is purchased in bag form or bulk, i.e., delivered by the cubic yard in the front of your house (street or driveway).
2. Approach #2. Build raised beds 10-12 inches deep using treated wood, red wood or block. Fill with new loam top soil. As an option, after filling with new loam top soil, add fertilizers to the top 3-6 inches only by working into the soil manually (rake, shovel, spade or pitch fork, etc.) or better yet, by rototiller. Another option is to fill the raised bed to a depth of 4-5 inches of loam, add a layer of superphosphate, and then add the remaining 5-6 inches of loam. With all the loam added, now add fertilizers to the top 3-4 inches as described in the above first option.
3. Approach #3. Amend existing soil. Remove the top 3-6 inches of existing soil and then rototill or manually dig into the existing soil a good blend of organic/inorganic soil amendments/fertilizers. It is recommended that you have your soil tested by a competent soil lab to determine the specific needs of your soil. I have personally used the Soil and Plant Laboratory, Inc. in the city of Orange.

C. Preparing soil for a planted area, i.e., planting one or a few roses in different areas within an established garden or planting roses in soil that you know is adequate and supports other growing plants with no apparent problems. I recommend 1 of 2 approaches:

Approach #1. Simply dig the hole and follow the soil preparation instructions discussed below under the topic "Planting the Rose".

Approach #2. Perform a special site treatment in the immediate area where you plan to dig your hole by following the instructions below. NOTE: This approach can work only if you

have can wait about 1 month between the time you dig the hole and the time you are ready to plant the rose (bare root or potted rose).

1. dig a hole 18" wide and 18" deep. If soil is very hard, clay-like, make the hole 24x24.
2. Throw-away 2/3 of the soil you dug up. With the remaining 1/3 soil, place it in a wheel barrel or equivalent container.
3. 2/3 soil. Mix the 1/3 soil with an amount of soil equivalent in volume to the discarded. This new, replacement "amount of soil" can be: potting soil, or a combination of 1 part new, top soil/loam (not potting soil) and 1 part Perlite.
4. Optional step: add to the mix your favorite organic fertilizers, i.e., blood meal, fish meal, alfalfa meal, bone meal. The accumulative amount of these fertilizers should not exceed 1 cup.
5. Fill the hole back up with your mixture of old/new soil described above.
6. Water the newly placed soil in the hole with a 2 gallon solution of vitamin B-1 every 3-4 days for about 2-4 weeks. Optional step: In addition to the B-1 treatments, apply a 1 gallon fish emulsion solution once a week.
7. After the 3-4 weeks, the soil is ready for planting, i.e., dig up the hole and plant your bare root or potted rose as discussed below (section III "Planting the Rose").

The main purpose of the vitamin B-1, optional fish emulsion and 2-4 week wait is to encourage the various soil bacteria responsible for nitrogen fixation to grow and multiply in time before planting the actual rose. This is important because soil nutrients can only become available to the plant after being processed by bacteria and secondly, potting soil is generally sterile and requires a few weeks to build up an adequate amount of bacteria for plant nutrition.

III. PLANTING THE ROSE

A. Planting a bare root directly into the ground

Easiest approach (by Jack Christensen):

1. Start out with plants that have plump stems (fat, not dry/hard looking)
2. Break off any sprouts (new stubby growth)
3. Cut back stems to only 8-10 inches. (Removing the sprouts and cutting back the stems were hard lessons for me to learn. But I can assure you, following these steps will result in much stronger plants!)
4. Cut off any broken roots.
5. Thoroughly mix ¼ cup of granulated rose food into plenty of loose soil at the bottom of the hole.
6. Spread roots; plant your new rose bush with the crown (that knobby area where all the stems start) at 1-2 inches above the soil level. You don't really need to worry about the size of the hole; just make sure all the roots are buried.
7. Water the ground well, then cover the entire plant with excess soil or mulch - yes, the entire plant! The covering acts as insulation, protecting the whole plant as new roots establish themselves.
8. After 2-3 weeks, carefully remove the excess soil covering.
9. Fertilize when the first flowers open.

B. Planting a bare root directly into the ground

Another straight-forward approach (by the ARS Consulting Rosarian Manual):

1. Dig a hole 18" wide and 18" deep. Add a quart of peat moss or compost, and mix well. Form a mound of the mixture at the bottom of the hole.
2. Position the rose on the mound so that the bud union is just above ground level. Carefully arrange the roots of the plant around the soil mound.
3. Work the soil mixture around the roots to eliminate any air pockets. Firm the soil around the roots and add more soil until the hole is ¾ full.
4. Fill the hole with water and allow to soak in, then refill with water again to top of hole.
5. Trim canes back to 8 inches, making 45-degree angle cuts ¼ inch above an outward facing bud or bud eye.
6. Create a 6 inch soil mound over the plant to protect canes from drying out.

C. Planting a bare root into a container first, wait until June, then plant into the ground.

More complicated (by Jim Grilliot):

1. Sterilize/Dehydrate bare root by performing the following:
 - a. Fill a 5 gallon bucket with water and add bleach at a ratio of 1 tbsp per gallon (5 tbsp).
 - b. Fill a 32 gallon trash can with a minimum of 20 gallons of water. Add 1 tsp of vitamin B-1 per gallon of water.
 - c. Remove the plastic bag around the bare root, being careful not to break the roots. Pliers may be needed to remove the secured plastic bag. Then take the water hose with attached spray nozzle and carefully wash the packing material from the bare root.
 - d. Lightly pull on the roots to find any loose/damaged ones. Cut off all damaged roots and trim about ½ inch from all remaining roots. Damaged roots harbor disease and performing the light trim promotes growth.
 - e. Trim the canes to 6-8 inches, making 45-degree angle cuts ¼ inch above an outward facing bud or bud eye. Remove any dry/twiggy dead looking stems and any sprouts. Cut flush with the bud union any short/dead-looking stubs/stems protruding from the bud union.
 - f. Fully submerge the bare root into the bleach solution for about 1 minute. If the bare root is longer than the length of the 5 gallon container or to avoid from spelling water all over when submerging the bare root, you may immerse the top half of the bare root first, wait a minute, and then submerge the bottom half of the bare root for about 1 minute. This completes the sterilization process.
 - g. Fully submerge the bare root into the B-1 solution. Let soak for 24 to 48 hours. This completes the rehydration process. Save the B-1 solution for the planting process – don't throw it away.
 - h. Optional step -- After the bare root is air-dry, apply Elmer's glue to the ends of the cut canes. The Elmer's glue seals the cut cane-ends.
2. Select your container. For HTs, F's and other large roses, the minimum is 2 ½ gallons. The preferred size is 5 gallons. You may use the 5 gallon, black plastic containers commonly used at nurseries or the paper-corrugated types. I prefer the paper-corrugated types because the sides tear/cut easy when removing the plant from the container. For minis, use 1 gallon containers, plastic or paper-corrugated.
3. Prepare your plant medium/soil consisting of 1 part potting soil and 1 part Perlite.
4. Prepare/plant into the container by performing the following steps:
 - a. Put a 1-2 inch layer of pure potting soil or planter's mix at the bottom of the container and tap it in with your fingers. The firm layer prevents/mitigates the planting mix from running out of the holes. I don't use red wood chips or broken pottery pieces because the red wood chips tend to rot and the broken pottery pieces plug the drainage holes.
 - b. Add a layer of planting medium – about 2 inches deep, then poke a depression into the planting medium with your finger. Fill the depression with superphosphate (¼ cup for large roses and 1 tbsp for minis). The objective here is to keep the super phosphate in a lump or pile. There is good reason for this – phosphates are important to root development but tend to bind to adjoining soil and become unavailable to the roots. The lump/pile makes the phosphorus more readily available to the roots.
 - c. Place the bare root in the container and arrange the roots in a circle and fill the container with the planting medium holding the rose firmly at the desired level.
 - d. Shake the container to settle/level the medium and then poke the medium with your gloved fingers to settle the medium; add water to settle it further.
 - e. After the water has drained, refill with additional medium any obvious holes of depleted medium caused by settling.
 - f. Pour about 1 gallon of the B-1 solution saved above.
 - g. Optional – apply the long, hair-like sphagnum peat moss on the canes to serve as insulation
5. Water lightly every 3-4 days or as required to prevent medium from drying-out. Don't over water however as it will cause rot root and the plant will die.

6. Wait until early June (if bare root planted in January) to plant root ball into the ground. Why the long wait? Time is needed for the roots to develop and totally involve the medium. When this occurs, the rose can be easily removed from the container with the root ball intact. However, if you remove the rose prematurely, you will be unable to maintain the root ball and the soil will fall off damaging the fibrous root system.
7. Plant the container rose/root ball as follows:
 - a. Dig the hole 5-6 inches wider in diameter than the pot and 8-10 inches deeper than the depth of the pot.
 - b. Add about a 1/4 cup of gypsum to the bottom of the hole and scratch it in.
 - c. Fill the hole with the following soil medium to a level such that when placing the potted container on top of the partially-filled hole, the bud union is 1-2 inches above the soil surface:
 - Potting soil or a mixture of 1 part Perlite and 1 part top soil
 - d. Add ½ cup of superphosphate to the hole. Use the lump/pile method discussed in above "4b".
 - e. Take the rose plant out of the container. Be careful not to break the root ball.
 - f. Position the root ball in the center of the hole. Add or take out any medium to adjust the height so that the bud union is 1-2 inches above the soil surface.
 - g. Begin backfilling with soil until the hole is filled less 4-6 inches from the top. Backfill using existing soil but mix in ¼ cup of rose food such as Bandini Rose Food or other equivalent granular form of food/fertilizer and 1 cup of peat moss.
 - h. Fill the remaining hole with mixture of 1 part potting soil, 1 part nitro humus, 1 part existing soil and 1 cup of organic fertilizers (1/4 cup each of fish meal, blood meal, alfalfa meal and bone meal).

IV. WATERING AND NUTRIENTS

A. Roses require plenty of water

1. 90 % of a plant's dry weight comes from the ingredients in water and carbon dioxide.
2. Roses drink their food; nutrients are absorbed in the liquid (ionic state) by the rose roots.
3. Nutrients and water should be considered as one. Without adequate water, the presence of nutrients does no good; if you fail to feed/fertilize regularly, water alone cannot sustain the health and vigor needed in growing good roses.
4. Best time to water is in the morning, or early afternoon so long as there is adequate time for the leaves to completely dry. If they don't dry, fungal infections set in.
5. Leaves don't burn if you get them wet.
6. Different methods of watering available: hand watering, sprinklers, bubblers, drip irrigation, etc. Hand watering is effective if you have time, especially if you water using a water wand to wash off aphids and spider mites. Note—the water wand is more effective is washing off spider mites/aphids if you replace the water wand shower head with a screw-type spray garden nozzle. Hand-watering is also effective for deep root watering and the flushing of any accumulated salts in the soil. Drip irrigation saves water but can lead to salt build-up. Overhead sprinklers are good so long as they don't get turned on late in the day.
7. Roses are heavy feeders and require constant availability of nutrients. Nutrients: 3 major elements – nitrogen, phosphorous and potassium. Secondary/trace elements: calcium, iron, sulfur, magnesium, zinc, boron, manganese, molybdenum
8. Nutrients in soil come from two sources: organic materials, derived from dead plants/ animals, which are broken-down by soil microbes, producing available nutrients for the plant and inorganic fertilizers, man-made substances derived from organic materials, which make nutrients readily available . Both organic and inorganic materials/fertilizers are required for good rose growing.

V. FERTILIZERS – WHEN AND HOW

Key points to remember: Never add fertilizer to dry soil. Stop all fertilizing by 10/31. Cut dosages by ½ in the hot months of June, July and Aug. Best to combine the use of both organic and inorganic fertilizers. Roses require regularity/routine, i.e., a set schedule of applying fertilizers. Roses are heavy feeders, especially in Spring (need nitrogen)

VI. DISEASE AND INSECTS

- A. Fungal diseases in S. California:
Powdery mildew (most common). Rust (common in real wet areas). Botrytis. Anthracnose (common).
Some Blackspot but not as bad as back east. Downy Mildew
- B. Common insects/pests
Aphids, Spider-mites, Thrips
- C. All roses are prone to disease/insects in varying degrees. Fungal disease is best controlled by preventative rather than curative measures.
 - 1. Begin the season by Pruning to remove canes/leaves which harbor disease.
 - 2. Sanitation – remove all dead/diseased leaves from the plant/ground during the entire growing seasons
 - 3. Regular spraying; common fungicides to use include funginex and Daconil.
- D. Regular spraying with insecticides is rarely warranted. Pay close attention to your garden and spray only if damage exceeds acceptable levels – only if definitely needed. You can control aphids and spider mites by washing them off of the plant. In real stubborn cases, I recommend using a small spray bottle mixed with orthene and only spot spray – don't spray the entire plant as it kills the beneficial bugs too. Ultrafine, safersoap, neem oils are also effective.
- E. When handling chemicals, use gloves, eye protection, protective clothing and always FOLLOW the manufacturer's instruction/directions.
- F. Best time to spray is in the mornings; always avoid spraying when the wind comes up.

VII. DEADHEADING AND PRUNING

- A. Why deadhead? Is required for continuous repeat blooming. You don't want the bud to go to seed.
- B. Cutting off old blooms diverts plant nutrients and energy from seed production back to more leaves and flowers.
- C. Cut down to the fifth leaf.
- D. Best time to Prune? Jan 15th except if you are on the coast, then Jan. 31st.
- E. Light summer pruning (late August) sets up a good Fall bloom
- F. Basic tips. Always use quality/sharp pruners. Proper cut slants are at 45 degree with cut 1/3 to ¼ inch above a growth eye. Cuts to bud union should always be flush to it. Cut to shape like a vase
- G. The best way to learn how to effectively prune roses is "hands-on" training. Please see attached article on a Pruning Clinic scheduled at UCI on 1/12/02.

VIII. INFORMATION SOURCES ON ROSES

- A. Recommended publications:
 - Ortho "All About Roses – available in the store
 - Black and Decker "Landscaping with Roses – available in the store
 - American Rose Monthly Magazine
 - Consulting Rosarian Manual
- B. Web Sites:
 - www.ars.org
 - local rose societies
 - www.rssm.org
- C. Membership in local ARS affiliated rose societies
 - Rose Society of Saddleback Mountain
 - Orange County Rose Society