

ROSES 101

Soil Preparation and Rose Sickness / Replant Disease

Roses love a deep (18+ inches) root run that is moist (but not wet) year-round. Before planting work 1-2 inches of compost into the area that will be the plant's root run. Double dig if you can. Fertilize with a slow release rose fertilizer if necessary (see Feeding/Fertilizing).

Rose sickness, the poor growth of replacement roses placed into a previously established rose bed, is a poorly understood soil condition. To combat the condition, remove as much of the soil associated with the old plant's root-run as possible (3' x 3' x 1'), import soil from elsewhere in the garden, and replant. Use the soil you excavated from the bed elsewhere in the garden – it won't harm other plants.

Spacing and light

Light is the nutrient roses need most (after water). Provide them with at least 6 (preferably 8) or more hours of sun during the growing season. Be aware of midday shadows cast by nearby trees and shrubs and provide the plant's canopy with a clear area at least as big as its "spread" (shown on the nursery tag).

Cultivation & Mulching

Cultivation with a tine cultivator is a must for rose beds. It shatters the soil's surface crust allowing water and air into the soil. Cultivating a few days after irrigation will help form a "dust mulch" that will help retain soil moisture. Mulching rose beds with organic materials like leaf mold or compost is optional but will help retain soil moisture and prevent compaction. If you mulch, keep the mulch 6-8 inches away from the stems of your plants.

Feeding / Fertilizing

Healthy and productive roses require the full array of macro- and micronutrients, each at a target "sufficiency level." Proper plant nutrition requires we:

- Provide any nutrients the soil lacks (by applying either a compost or fertilizer) and
- Maintain the proper soil pH for roses (pH 6-7 being optimum).

We supply micronutrients by applying ¼ to ½ inch of garden compost or composted manure annually at bud break. Macronutrients will need to be applied as a fertilizer 3-6 times during the growing season. Any non-acid-loving shrub, tree, or vegetable fertilizer will work, but fertilizers formulated specifically for roses are best as they contain the right ratio of nitrogen to phosphorus to potassium (potash) and usually include calcium and sulfur. Many gardeners swear by alfalfa meal (supplemented with a teaspoon or two of gypsum) or fish emulsion because they supply both micro- and macronutrients at levels close to those found in healthy rose tissues.

At each feeding cultivate the soil lightly (to work fertilizer into the ground) before watering.

Pruning

Deadheading is the removal of spent blossoms during the growing season to encourage continued bloom and improve the look of the plant. **Pruning** removes larger and woodier stems to:

- **Reduce disease pressure** by thinning it to improve airflow through the plant,
- **Direct and stimulate the growth** of strong, floriferous, durable canes,
- **Limit the size** of the plant.

Rosarians recognize over a dozen “pruning groups” each driven by the plant’s flowering habit and vigor.

EQUIPMENT:

- Leather gloves
- Clean and sharp bypass-pruners (for stems up to ½” in diameter)
- Lopping shears (for stems up to 1” in diameter)
- Fine-toothed keyhole, pruning or reciprocating (saws-all) saw (for stems over 1” in diameter)

PRUNING TECHNIQUE:

Side branches are removed just above the branch collar. **Heading** or **tipping back** occurs about ¼” above a bud with the cut angled downward (across and away from the bud).

PRUNING HYBRID TEA (HT), FLORIBUNDA (F), AND GRANDIFLORA (G) VARIETIES

(INCLUDING “ROSE TREES” OR “STANDARDS”)

FALL: tip longer shoots back lightly to improve appearance and reduce wind damage (3-4 ft.).

LATE WINTER / EARLY SPRING: At the start of the plant’s second season prune annually for structure (As or soon after *Forsythia* are in full bloom).

1. Remove all dead, damaged, and dying branches (live healthy branches will have white or greenish-white pith, dying branches tan pith)
2. Remove any “stumpy growth” (large shoots that have produced few or no flowers the previous season).
3. Remove unwanted crossing and inward facing stems.
4. Head back remaining canes to produce the display you want. **Remember** that hybrid tea roses should generally be pruned harder than floribunda or grandiflora roses **and** that:
 - Hard pruning vigorous varieties will produce fewer but larger (florist quality) blooms while moderate or light pruning will produce a good display of “garden quality” blooms.
 - Hard pruning less vigorous varieties will improve both the plant’s vigor and the quality of blooms it produces while light or moderate pruning may produce only weak, spindly growth.
 - In almost all varieties, moderate pruning produces a good display of blooms with short to moderate-length stems while light pruning is likely to produce a profusion of smaller, shorter-stemmed blooms.

Hard pruning reduces the plant to just 3-5 primary canes each less than 1 ft. tall and with only 2-3 buds on any branch/side canes that may remain.

Moderate pruning reduces the plant to 5-10 canes that are 3-4 ft tall.

Light pruning improves the overall shape of the plant, but leaves most stems over the diameter of a pencil in place.

SPECIES, MODERN SHRUB, OLD GARDEN, AND GROUNDCOVER ROSES

Once-blooming types flower from the previous year's growth. Remontant types bloom on both old and new growth. In winter remove dead, damaged, weak, or diseased stems from both types of plant. To promote heavier bloom in remontant varieties, remove completely the oldest one-quarter of their stems each winter. The same can be done to once-blooming varieties (preferably) in summer just after bloom.

During the growing season, the newest shoots of both types should be should tipped back to encourage branching. Vigorous side shoots can also be tipped back as needed to shape the plant during the growing season. Soon after flowering, the once-blooming types are pruned. Their older, less-productive stems may be removed and younger shoots thinned or cut back to improve air flow through the plant, encourage new growth and shape the plant. Remontant bloomers can be similarly, but more heavily pruned.

Ground covering roses are pruned as remontant shrub roses with care taken to tip-back any shoots that would overgrow their allotted space to an upward facing bud.

RAMBLING AND CLIMBING ROSES

Ramblers (R) generally bloom once in late spring or early summer. They are pruned in late summer.

Climbers (CL) are usually "sports" of HT, GR, or F roses that bloom repeatedly through the summer. They are pruned in winter (December-February). Pruning **starts** during the plant's **third year**. During its first two years, training consists of directing its main shoots horizontally to encourage side shoot production and vigor.

Fall / Winter Pruning for established climbers:

1. Remove dead or dying branches completely.
2. Remove older healthy stems to prevent "congested growth," leaving 6 to 8 younger vigorous stems.
3. Select (and tie into place) any new shoots required to visually fill the support.
4. **Prune side shoots** to 1/3 their mature length and thin to prevent congested growth.

Deadheading and Disbudding

Deadheading is the removal of spent blossoms during the growing season. Once-blooming species, shrub roses, and ramblers are deadheaded only to improve the plants appearance and to remove unwanted hips. This is often done in late fall or during winter pruning. Hybrid tea, grandiflora, and floribunda roses are deadheaded as their flowers fade. Buds atop three-leaflet leaves are blind (i.e. will not bloom). Deadhead tea roses by removing the spent blossom and its supporting stem to a vigorous, outward facing bud with a five-leaflet leaf. Floribundas and grandifloras produce terminal clusters of flowers in which the central blooms fade first. In these varieties, remove each spent bloom from the cluster then remove the cluster completely to a five-leaflet leaf.

Disbudding is the removal of side shoots from a leafy stem to encourage the development of a solitary, florist quality bud in hybrid tea roses. It is accomplished by gently pushing the soft side shoot sideways until it breaks away from its subtending leaf.

Pests and Diseases

Roses host numerous beneficial arthropods and microbes. Controlling their pests without harming the beneficials is tricky. Pesticide resistance is also a concern. Pesticide applications should be (1) as targeted as possible and (2) used only when other controls fail. Gardeners should rotate pesticides as directed by the label or when a product fails to control a pest well. Plantings should include **companion plants** that draw beneficial insects into the garden and confuse rose pests. These include: catnip, chives, cranesbill, feverfew, garlic, hyssop, lavender, marigold, onion, rosemary, rue, sage, scented geranium, sweet alyssum, and yarrow

Black spot, Alternaria, Rust, Botrytis and **Powdery Mildew** are to be expected on roses. All overwinter on leaf litter and their spores are spread by water splash and air currents. Black spot and Rust also overwinter on the plant's stems. All thrive when air circulates poorly through lush growing plant or when plants are stressed by drought or nutrient deficiency. All first appear as tiny, rarely noticed, yellow lesions/discolorations of the leaf that progress to their more recognized sporulating form. This means the "pillars of organic disease control" for roses are:

- Prompt removal of infected leaves during the growing season and removal of leaf litter in the fall (to trash, not the compost pile).
- Proper winter pruning and thinning of the plant's stems as needed during the growing season.
- Proper feeding
- Proper irrigation: about 1" of water per week in dry weather applied without wetting the foliage (this is critical to preventing black spot, botrytis, and rust in spring, early summer, and fall).
- Syringing the foliage with water (in early morning) during the heat of summer (to control powdery mildew and aphids).
- Applying protective fungicides before infection can begin and continue every 7-10 days thereafter until conditions no longer favor infection. OMRI listed active ingredients that protect against common rose diseases include potassium carbonate (Bonide Insecticidal Soap), sulfur (Safer 3 in 1 Garden Spray), light horticultural oil or neem oil /azadirachtin (Captain Jacks – Rose Rx 4 in 1). A two-week interval between sulfur and neem oil fungicides is required to prevent damage to the plant. Products containing *Bacillus subtilis* help protect against powdery mildew. Fungicides that contain Basic Copper Sulfate (Bonide Copper Fungicide) can also be used but the number of applications should be minimized to prevent copper toxicity.

Pests: Luckily, neem oil/azadirachtin and insecticidal soaps have both fungicidal and insecticidal/miticidal properties to control the most common pests. Products containing Spinosad, BT (*Bacillus thuringensis*) and Milky Spore (*Paenibacillus papillae*) are more targeted and can be used against specific pests; especially beetles and caterpillars.