Bartlett Tree Research Laboratories

PLANT HEALTH CARE REPORT

Rose

Roses (*Rosa* spp.) are the most popular garden plants in the world and they produce the most economically important cut flowers. Such a wide variety of roses are available that any garden with sufficient sun should be able to grow them. Although there are between 150 and 200 species of wild roses in the Northern Hemisphere, selection and hybridization have given rise to over 20,000 cultivars.

Rosa 'Gene Boerner', a floribunda cultivar

Photo courtesy of Wikimedia

Rosa 'Double Delight', a hybrid tea cultivar

Photo courtesy of Wikimedia

The most common classifications of modern roses are hybrid tea, floribunda, grandiflora, climber, miniature, and tree roses.

Hybrid teas: the popular garden roses; produced by the interbreeding of hybrid perpetual roses with tea rose cultivars. Modern hybrid teas have one large flower per stem and can bloom continuously for months when given proper care. However, most varieties are susceptible to attack by numerous diseases and insects.

Floribundas: most have smaller flowers than hybrid teas, but produce more flowers on each stem. Floribundas are excellent for providing masses of color in the landscape. This group will tolerate more neglect than most roses.

Grandifloras: a cross between hybrid teas and floribundas, these produce flowers in profusion. These are vigorous roses that produce larger, but fewer flowers than the floribundas.

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Climbers: send out long shoots or canes that can be trained over fences, arbors, or trellises. A diverse group, the climbers vary greatly in bloom and pest resistance.

Rosa chinensis 'Climbing Old Blush'

Photo courtesy of Mount Vernon Estate

Miniatures: range in height from 3 to 18 inches and have tiny flowers. They are particularly suitable as potted plants and in rock gardens.

Tree roses: Often called "standards," they are produced by grafting a hybrid tea or other rose onto a strong, tall stem. Many have central stems 3 feet tall. Usually the stem must be supported with a stake.

Culturing roses is not difficult, but to be successful, it is necessary to follow certain guidelines. Roses grow best where they have full sun all day: 6 hours of direct sun is the minimum for roses to flower well. However, where summers are hot, flowers will last longer if they receive partial afternoon shade. Also, roses in locations that receive early morning sun will dry more quickly and have fewer disease problems.

Roses require a well-drained soil to prevent cankers and root diseases; working the soil deeply and incorporating organic matter (peat moss, compost, manure, etc.) provides this. Raised beds are often used in areas with heavy clay soils. Roses should be regularly fertilized based on a soil nutrient analysis. Mulching around roses with wood chips, pine straw, peat moss, or other organic material is highly beneficial.

Roses are considered high-maintenance plants primarily because of the many diseases, insects, and mites that attack them. The major rose problems are described below.

1. Black spot: The most important disease of roses, black spot is a fungus disease of the foliage. Young leaves are the most susceptible to attack, particularly during rainy spring periods. Infected leaves turn yellow and fall prematurely. Susceptible varieties are usually completely defoliated by midsummer. This causes blooming to stop and the plants become more susceptible to canker diseases. Fungicide

treatments during the spring and summer are necessary with all but the most resistant varieties. Pruning and sanitation are also essential elements of black spot control.

2. Powdery mildew: Powdery mildew, also a fungal disease, attacks the buds, flowers, and stems. Infection can occur at any time during the growing season when humidity is high and temperatures are warm. Many new rose cultivars show resistance to powdery mildew, although few retain a high level of protection. Fungicide treatments are highly effective against this disease.

3. Rose rosette disease: Rose rosette disease is caused by a virus unique to the genus *Rosa* that is vectored by an eriophyid mite. Symptoms can first appear as distorted leaves with red pigmentation (see photo at right) and the proliferation of vegetative shoots (also known as a witches' broom). Different rose cultivars show different symptoms when exposed to this virus.

4. Other diseases (rust, cankers, blights, anthracnose, crown gall, mosaic virus): Roses are subject to a wide variety of diseases and must be routinely inspected for symptoms. Cultural practices that reduce stress and promote vigor will reduce the effects of diseases.

5. Japanese beetle: Adult beetles feed on the foliage, buds and flowers. This species is a problem in the eastern half of North America. Damage to the foliage will often completely defoliate roses. Beetles tunnel into and destroy buds and feed on flower petals.

6. Spider mites: Several species of these tiny pests commonly damage rose foliage. They often build up to very high numbers before they are detected. The two-spotted spider mite is a pest of many other garden plants and has the potential to spread rapidly.

7. Thrips: Flower thrips are common problems on roses. Thrips damage the petals, causing a brown streaking.

8. Other insects (rose chafer, rose leaf beetle, leafhoppers, rose slugs (sawflies), aphids, scales, midges, leaf-cutter bees, stem borers)

Monitoring and Treatment Considerations for Rose

Early to mid-winter

Inspect plants for deer browse and rodent damage; apply repellent treatment as needed. Remove mulch from stems to reduce risk of disease and rodent injury.

Late winter

Apply dormant treatment to suppress mites and scales. Remove dead, dying, and diseased stems, reduce size and/or improve shape. Sample soil for nutrient and pH levels. If decline is evident, submit root sample for Phytophthora root rot testing.

Early spring

Apply first fungicide treatment to suppress black spot, rust, and other diseases. Apply soil treatment to suppress Phytophthora root rot as needed. Expose and inspect root collar for problems; add mulch as needed.

Mid-spring

Apply second fungicide treatment to suppress black spot, rust, powdery mildew, and other diseases. Monitor for spider mites, aphids, rose slugs, leafhoppers, and scales; treat as needed. Fertilize, adjust pH, and amend soil according to soil analysis. Remove old flower heads.

Late spring

Apply third fungicide treatment to suppress black spot, rust, powdery mildew, and other diseases. Monitor for spider mites, aphids, rose slugs, leafhoppers, and scales; treat as needed. Remove old flower heads.

Summer

Re-apply fungicide treatments every 14 days to maintain a high level of disease control on susceptible varieties. Apply soil treatment to suppress Phytophthora root rot as needed. Monitor for Japanese beetle, rose chafer, leaf beetles, thrips, spider mites, aphids, rose slugs, leafhoppers, and scales; treat as needed. Monitor irrigation and soil moisture to minimize water stress and prevent root disease. Remove old flower heads.

Fall

Inspect plants for deer browse; apply repellent treatment as needed. Fertilize, adjust pH, and amend soil according to soil analysis. Remove mulch from stems to reduce risk of disease and rodent injury. Remove old flower heads.