



WONDERFUL ROSES

To grow beautiful roses, you don't need to use pesticides and fungicides. 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, so if you have soil that drains slowly or 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 to protect your family's health and the environment while you grow strong, healthy roses with glorious blooms.

WHERE TO PLANT

Before you plant, spend some time finding the best spot in the garden for your roses. Roses need: full sun (>6 hours/day); good drainage; plenty of room to grow. ****Consider planting roses in mixed beds rather than traditional rose beds. This diversity of plants will attract beneficial insects and cut down on the spread of rose 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 they can remain in their pots for several months. Bare root roses (plants with no soil on their roots) are available December through February. They should be planted right after you buy them so that 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. You may also want to add organic matter such as compost or high-quality rose planting mix. Make sure to 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 that will comfortably hold the roots of the plant. 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. 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 it higher to keep the soil from touching the root crown or to keep the bud union at least 2" above the ground.
- Cover the soil with 2" to 3" of organic mulch.

LESS-TOXIC CHEMICAL CONTROLS FOR ROSES

If disease or pest problems are persistent in your garden, you may want to 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 is similar to common baking soda and can be used to prevent powdery mildew. It must be applied weekly. Or, use this baking soda mixture: 1 tablespoon baking soda, plus 2 tablespoons horticultural oil in 1 gallon of water. Spray when you first detect disease, and repeat when new symptoms appear.
- Sulfur and lime can be effective against black spot, powdery mildew, and rust. Do not use when temperatures exceed 85F° because you will burn the leaves.
- Antitranspirants and horticultural oil 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. Treatment is begun when new leaves appear in spring and must be repeated whenever you see new growth. NOTE: In its ready-to-use form, some antitranspirants are too strong for roses. Dilute and use a 1% solution of horticultural oil and water (about 3 tablespoons of oil in 1 gallon of water).
- Neem oil can help prevent powdery mildew, black spot, and rust. Neem oil can be toxic to bees, so it is safest to spray it in the evening.
- Biofungicides attack and outcompete pathogens for nutrients and for space on leaves.



Choose less-toxic pest controls for your home and garden.

MANAGING COMMON ROSE PESTS AND DISEASES WITHOUT PESTICIDES

Inspect plants regularly to detect any diseases or pests before they become a problem. 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.

Powdery Mildew

Symptoms of "powdery mildew" include curled leaves and a white or gray powdery coating on leaves, shoots, and flower buds. Powdery mildew typically grows on new growth and in locations with high humidity.

Controls: Plant disease-resistant varieties, wash leaves in early afternoon with a strong spray, avoid heavy fertilization or heavy pruning that causes spurts of new, highly susceptible growth.

Rust

Symptoms of "rust" include 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. Rust can develop where there is continuous moisture for 2 to 4 hours at moderate temperatures (e.g., 64°F to 70°F).

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). Use soaker hoses or drip irrigation.

Aphids

Aphids are tiny (1/8") sucking insects that feed on plant sap. Often found in clusters on new shoots and flower buds, especially on over-fertilized plants. They may cause leaves to discolor or turn black with sooty mold, and natural predators can reduce their numbers.

Controls: Wipe off by hand or spray off with water, prune off infested growth, spray with an insecticidal soap, use slow-release fertilizers to prevent growth spurts.

Black Spot

Symptoms of "black spot" include 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, and insects. Black spot can develop at locations with high humidity and when roses are continuously wet for 7 hours. In Idaho, this disease may indicate excessive moisture, insufficient light, or poor air circulation.

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

WATER POLLUTION

Common household pesticides (a term which includes all chemical control such as herbicides, insecticides, rodenticides, etc.) can make their way into treated wastewater and local waterways, and may be at levels that can harm sensitive aquatic life. Pesticides can also get into ground water which may be used as drinking water. Water pollution prevention agencies have teamed up with participating retail stores, and professional pest control associations to reduce the risks associated with improper pesticide use.

Use pesticides according to label directions, paying close attention to surface and ground water advisories. Dispose of unwanted or leftover pesticides at a household hazardous waste collection facility or event; or through the Idaho State Department of Agriculture (ISDA) Pesticide Disposal Program (PDP). Clean, plastic pesticide and fertilizer containers may also be recycled through ISDA's Container Recycling Operation Program (CROP). Please call 208-465-8442 or visit: www.agri.idaho.gov for more information. For additional information on pesticide disposal, call 1-800-CLEANUP or visit: www.1800CLEANUP.org.

FOR MORE INFORMATION

Active ingredients are listed on the front of the product. Pesticide information profiles can be found on the Oregon State University hosted webpage <http://extoxnet.orst.edu/pips>. The University of Idaho's Extension Educators, located in most counties, can often assist in local pest management questions. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

For more information, contact:

Partners for Clean Water

www.PartnersForCleanWater.org

Idaho State Department of Agriculture

www.agri.state.id.us/

University of Idaho IPM website:

www.extension.uidaho.edu/

University of Idaho Cooperative Extension

Master Gardeners in your area

www.extension.uidaho.edu/idahogardens/

Western Integrated Pest

Management Center

www.wripmc.org/

IPM Institute of North America

www.ipminstitute.org/

National Pest Management Association

www.PestWorld.org

THINGS TO AVOID AND WHY

These considerations will reduce the potential indiscriminate use of chemical control products and therefore reduce the potential exposure of pesticide residues to humans, animals and the environment.

- Use of pesticide products without:
 1. knowing what pest you are trying to control,
 2. consideration of alternative control options (IPM),
 3. selecting the most appropriate product for your situation, and
 4. reading and following the label directions.
- Automated aerosols and plant feeders: These devices may disperse chemicals in a way that can increase the risks of exposure to unintentional targets.
- Careless use of ground sterilants: These can leach; either use great care or alternative control methods to prevent damage to desired plants or water contamination.

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www.PartnersForCleanWater.org