● ALTERNATIVES

PESTICIDE-FREE TECHNIQUES FOR MANAGING COMMON ROSE DISEASES

BY CAROLINE COX

Roses, the most popular perennial flower in the U.S., entice and attract many of us with their elegant, fragrant flowers. They grow well in the Pacific Northwest; spring rainfall, sunny summers, and moderate winters all help roses thrive. These same conditions, however, encourage some common diseases and roses are often considered troublesome plants that need the help of fungicides to grow well.[1,2] Fortunately, by following some simple rules for planting and taking care of roses you can enjoy beautiful blooms without using pesticides.

Common Problems

In Oregon and Washington, the three most important rose diseases are black spot, rust, and powdery mildew.[1,2] In Montana, black spot is the most important disease.[3] In California, powdery mildew is common, and rust can be troublesome on roses in humid, coastal areas.[4]

■

Caroline Cox is JPR's editor.

U.S. Dept. of Agriculture

Black spot looks like its name, small black spots on the upper surface of leaves.[4] This fungus disease causes leaves to drop off the plant early. It survives the winter on leaves and stems that have been infected. In the spring, the spores that these infected leaves and stems produce are splashed by rain or watering onto new leaves, allowing the disease to spread. In the Northwest, spring and fall weather conditions are favorable to black spot.[1]

Rust is another fungus disease; typical symptoms are small orange blisters on the underside of leaves. Low levels of rust will not cause significant damage.[4] Like black spot it survives the winter in infected leaves or stems in and around the rose bush. In the spring, rust spores are blown to new leaves or plants. Spring and early summer conditions are favorable to rust.[1]

Powdery mildew, also a fungus, looks like a white or gray powder. It can occur almost anywhere on the rose plant. It causes leaves to distort and drop.[4] Unlike black spot and rust, it survives the winter in live leaf buds, not on dead material.[1] Spores are blown from plant to plant. Also unlike black spot and rust, powdery mildew does not require water in order to thrive and is most active during the summer.[1,4]

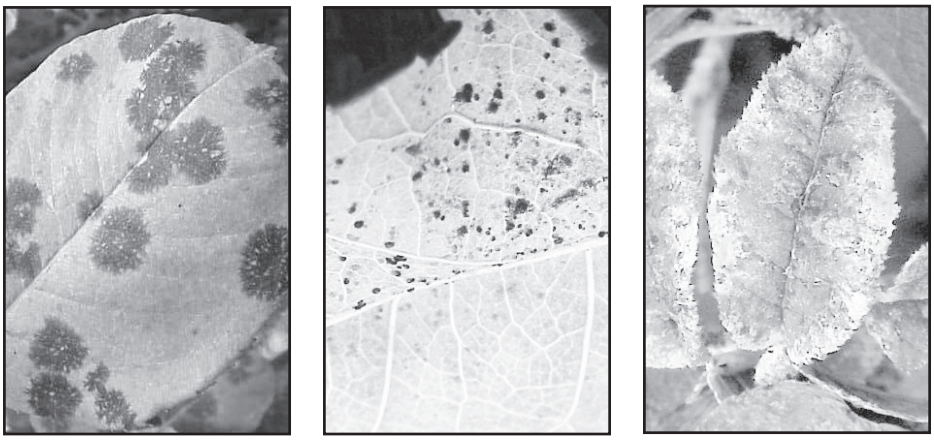
Before You Plant

If you are planning to plant roses in your yard, you have the opportunity to plant in ways that minimize the problems you will have with rose diseases.

First, plant roses that are not susceptible to the common rose diseases. Ask your county extension agent or master gardener program for information about disease-resistant varieties that do well in your area. Online information for western Oregon and southwestern Washington is available at http://plant-disease.ippc.orst.edu/articles.cfm?article_id=24, for Puget Sound at http://gardening.wsu.edu/column/02-27-00.htm, and for Montana at http://www.montana.edu/wwwpb/pubs/mt9603.html.

Next, choose your planting location carefully. Plant roses far enough from

Heather Partipilo/ Oregon State University



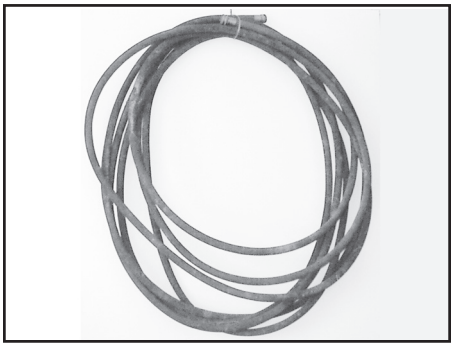
Black spot, rust, and powdery mildew.

NORTHWEST COALITION FOR ALTERNATIVES TO PESTICIDES/NCAP
P.O. BOX 1393, EUGENE, OREGON 97440 / (541)344-5044 / www.pesticide.org

each other, other plants, and structures (fences, walls, etc.) that there will be adequate air circulation around the plants.[1] Sunny locations, particularly those without morning shade, will also help minimize future disease problems.[3,4]

Watering

Roses need lots of watering (about an inch a week) unless that much water is provided by rain.[2] Springtime watering from above encourages black spot and rust on rose leaves.[5,6] You want to keep the leaf surfaces dry as much as possible. Soaker hoses are a convenient way to do this.[2] Watering early in the day, so that leaves have time to dry out before night, is another helpful tip.[1]

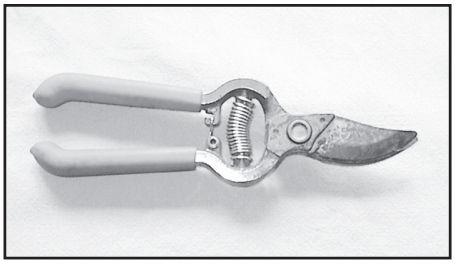


A soaker hose.

In the summer, once the weather no longer encourages black spot and there are no black spot symptoms on your roses, a different kind of watering is recommended. Called "hosing," the idea is to use a strong spray of water to dislodge powdery mildew from the leaves. This method of controlling powdery mildew is most effective when the fungus is just beginning to spread. Repeat the hosing every three to five days. (As an added bonus, hosing should also remove any aphids that have started to feed on your roses.)[1]

Fertilizing

Giving roses too much fertilizer (especially nitrogen) encourages rapid growth of leaves, the home for the three common rose diseases. Oregon State University recommends composted manure or fish meal as slow-release fertilizers that will help avoid this problem.[1]



Pruning shears.

Pruning

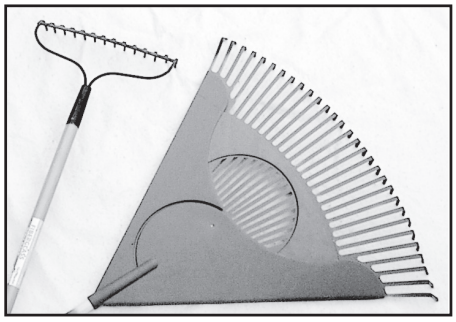
Pruning helps control all three of the common rose diseases.[5-7] Prune diseased stems, severely if necessary. Also, during the winter you should prune bushes to allow air circulation. Don't compost diseased material in case your compost pile doesn't get hot enough to kill the disease-causing fungi; sending it to the landfill is probably your easiest option.[1]

Dead-heading

Dead-heading, removing blooms after they have wilted, can help prevent powdery mildew problems by removing any new mildew colonies that are starting in the flowers. Do this throughout the growing season.[1]

Cleaning Up

Keeping your rose beds clean is "of primary importance."[1] Rake and discard all fallen leaves, rose hips,[3] dead flowers, and other plant trash.[1] Also, remove not-yet-fallen leaves that are infected with powdery mildew.[7]



Rakes.

Fungicides

NCAP does not recommend the use of pesticides. However, we recognize that you may feel that use of a fungicide on your roses is necessary. If so, consider the use of two newer products that appear not to cause major problems for human or environmental health.

Note that neither manufacturer was willing to identify "inert" ingredients in these products for NCAP, so potential problems associated with these ingredients are unknown.

Potassium bicarbonate is a chemical relative of baking soda and is used in antacid over-the-counter medications.[8] It controls powdery mildew and black spot on roses.[9] It is sold as "Remedy" (www.bonideproducts.com).

Bacillus subtilis is a microbial pesticide. It is a bacteria that is commonly found in soil, air, and water.[10] According to the product label, it is effective in controlling all three important rose diseases.[11] It is sold as "Serenade Garden Disease Control" (www.agraquest.com).

Conclusion

Caring for your roses without using pesticides is not difficult. Try the steps outlined here, and enjoy your healthy roses!

References

1. Oregon State Univ. Extension Serv. 2000. Controlling diseases and aphids on your roses. http://eesc.orst.edu/agcomwebfile/edmat/html/EC/EC1520/EC1520.html.
2. Washington State Univ. 2000. Choosing good roses for Puget Sound. http://gardening.wsu.edu/column/02-27-00.htm.
3. Montana State Univ. Extension Serv. 2003. Growing shrub roses in Montana. http://ww.montana.edu/publications.
4. Univ. of California. Agriculture and Natural Resources. 2003. Roses in the garden and landscape: Diseases and abiotic disorders. www.ipm.ucdavis.edu.
5. Washington State Univ. 2003. Hortsense. Rose: Black spot. http://pep.wsu.edu/hortsense.
6. Washington State Univ. 2003. Hortsense. Rose: Rust. http://pep.wsu.edu/hortsense.
7. Washington State Univ. 2003. Hortsense. Rose: Powdery mildew. http://pep.wsu.edu/hortsense.
8. 21 *Code of Federal Regulations* §331.11.
9. Horst, R.K. and H.W. Israel. 1992. Managing fungal diseases of ornamentals with bicarbonates and determining their mode of action. Prog. Rep. to the American Floral Endowment. www.endowment.org/pr/p2092pr2.htm.
10. U.S. EPA. 2000. Bacillus subtilis strain QST 713 (OO6479) biopesticide registration action document. www.epa.gov/pesticides/biopesticides/ingredients/tech_docs/tech_006479.htm.
11. AgraQuest, Inc. 2002. Serenade garden disease control ready to use. (Product label.) www.agraquest.com.