

Poor David's Almanac by Dave Ingram, Master Rosarian

A Revised White Paper on Black Spot Part 2 – What can I do about it?

“The fundamental basis for disease prevention relies on modification of the environment to reduce the risk of disease.”

Ethel M. Dutky, Department of Entomology, Univ. Of Maryland

There are two basic approaches to controlling the fungal disease known as black spot: **cultural** and **chemical**. In some areas of the country, rose lovers have little choice but to duke it out toe to toe with black spot, using the heaviest chemical sprays they can find. But in semi-arid Colorado, our limited rainfall restricts the germination of black spot spores, and offers us more choices for management. In fact, a multi-university website located in our area (HPIPM) states, “Black spot is easily managed in semi-arid climates without the aid of fungicides.” Personally, I would add the qualifier, “in most years.” This article will try to identify practices that can limit what we call disease pressure in your garden.

Our best approach for black spot control is **Integrated Pest Management (I.P.M.)**, which is based on:

1. Observation of your garden,
2. Proper identification of a problem (is that little dot black spot, or something else?)
3. Evaluation of treatment options (including doing nothing), and
4. Choice of an effective treatment that least damages the environment (and the gardener!).

Cultural Controls: In Part 1, we learned several facts about black spot that offer clues to control of the disease:

1. Spores are transmitted to the leaf primarily by water, also by insects and gardeners.



Note fringed margin on spots
© Iowa State University

2. The spores can only germinate when immersed in water for 7 plus hours in a temperature range of 50 - 80 degrees (most happily 65 - 75 degrees). Water again, hmmm

A classic black spot infection scenario begins on the lower part of the plant, from spores splashed up from below by rain or watering. In wet conditions that favor spore germination, the outbreak can quickly work its way up the plant, infecting the leaves like lighting the base of a curtain on fire. But black spot needs water to get started. A good beginning to cultural black spot management is:

Control the Water: I'll never advise anyone to run into the rain and hold umbrellas over their roses. An evening rainstorm that wets the leaves overnight in the proper temperature range will always be cause for concern. But there is much we can do to tilt the odds for control back in our favor:

1. Always give your roses plenty of water during the growing season, but water at the base in a way that doesn't splash water onto the leaves.
2. However you water - overhead, by hand, or drip irrigation - do so early on sunny days so that any wet leaves can dry off in less than 7 hours. Learn to detect overspray from your (and your neighbors') lawn sprinklers.
3. Water-spraying aphids and spider-mites off roses (known as syringing) is an important method of control for those insects, but do so early (think 7 a.m., not 7 p.m.).
4. A mulch can help lessen water splashing from rain and watering, slow down evaporation loss from the soil (which means less watering), and lower stress on the plant.
5. Don't work in your garden when leaves are wet (so you don't spread spores), and disinfect pruners after working on diseased plants



Note symptoms on petiole and stipule © John Hartman, bug-wood.org

Control the Air: Good air flow around and through plants is an important ingredient in pest and disease control—as well as a key to healthy plants (not a coincidence).

1. **Property plant spacing.** Overcrowding roses is a classic indicator of pending trouble; and something Poor David is guilty of. Stick to your original garden plan; wedging in one more rose may cause more trouble than it's worth.

2. **Good pruning.** Roses are a lot like cats; they have a mind of their own and will grow as they please, thank you very much. By late summer (prime black spot season), the center and base of a bush can become clogged with weak growth and unneeded branches that restrict airflow and timely drying. Black spot spores love this. They also love the tender new leaves and tender new basal breaks that cause this clogging. Keeping the center and bottom of a rose open to airflow can make a healthy difference - and help you notice if something goes wrong.



Cane lesions to be pruned out © Heirloom Roses

3. **Yank the leaves.** Remove infected leaves (when dry, not wet!) and cut out cane lesions as you spot them. A tactic I have used with 'Austrian Copper' and 'Soleil d'Or' (two notorious black spot magnets): once the main bloom is over (late July), I pull the leaves off the bottom third of the plant, then keep the ground super clean through fall. This has kept those two plants almost black spot clean for the past several years (better than it used to be!)



Dead Tissue and ethylene damage © Ipernity

4. **Proper fertilization.** A classic black spot infection begins with spores splashed off the ground onto lower leaves. As mentioned, the spores love tender new leaf and basal cane growth. Therefore, the tendency some of us have to heavily fertilize our roses, trying to get more, more, *more* out of a short growing season, can provide perfect conditions for an infection to take hold. We might



This leaf is history © Royal Horticultural Society

be our own worst enemies here.

5. **Grow resistant varieties.** Okay, Poor David, why didn't you start with this, hmmm? Well, for one thing, a rose that stays healthy in one garden may not do so in another. Controlling the variables (garden site, sun exposure, soil prep, plant spacing, fertilization, water, etc.) can help a lot. But there are dozens of strains of the black spot fungus, and they continue to evolve. Even so, we know of certain rose groups that resist or minimize infections. Many species (wild) roses stay healthy (but not *R. foetida* or its hybrids!). Many of the old Albas, most Rugosas, and some of the other Old Garden roses have demonstrated black spot resistance over the decades. A lot of the Canadian Hardy roses do well. The shrub rose 'Home Run' is exceptional. 'Knock Out' roses openly brag about their disease resistance. But remember: the expression, "disease resistant" will never mean "disease proof."

However, most of the popular modern hybrids we enjoy growing in our gardens these days, particularly those with the color yellow or orange (which come to us by way of *R. foetida*) are susceptible to black spot infections. Miniatures are vulnerable, in part because they are so close to the ground. Even the popular David Austin English roses are known to succumb. But what many of us along the Front Range of Colorado have discovered is that in most years, by use of thoughtful cultural controls, coupled with sharp eyes in the garden, we can control black spot by yanking off any spotted leaves that appear, and trimming back canes with lesions on them. No sprays needed!

Next month we'll talk about chemical controls for black spot. See you then!