

Spider Mites By Robert B. Martin, Jr. (Updated 4/2005)

I do not like spider mites. These miniature manifestations of maleficence can defoliate an Arizona rose garden faster than a good herbicide. They cause their greatest damage when it is miserably hot and the last thing you feel like doing is spraying your garden. They also seem to have the uncanny ability to sense when you are occupied by other pursuits and have little time to counter their attack. The mites in my garden have become so clever they now know exactly when I leave town on business; this of course is when they go into action.

Spider mites are the primary pest of summer, so with summer at hand it is a good idea to consider what you are going to do about them before they arrive in large numbers. This article will give you some ideas to counter their inevitable attack.

The Spider Mite

Spider mites are microscopic arachnids that appear on the undersides of the leaves of roses and turn them yellow. The yellowing leaves usually appear first at the inside bottom of the bush and spread up through the center. Left unattended, spider mites can defoliate a bush in a few days. They were also the most prevalent pest problem reported by exhibitors in a survey I conducted a few years ago for *Rose Exhibitors' Forum*. Of those who responded, 76% reported they are a major or seasonal problem. In addition, the 13 mentions of spider mites as a major problem were the most of any pest in the survey. Although I had expected that the problems with mites would be more severe in the hotter areas of the country, the survey did not bear this out and mites seem to be an equal-opportunity pest in all areas of the country.

There are a number of predatory mites and perhaps other beneficial insects that feed on spider mites. During cooler parts of the year, they are sometimes effective in keeping spider mites under control. At the same time, these natural enemies can be killed through the use of other pesticides, which explains why the problem with spider mites is usually more severe for those who use broad spectrum insecticides products like *Orthene*. But by Summer, the mites increase at such incredibly rapid rates that they simply cannot be controlled by natural predators.

The spider mite makes its living by sucking the fluids of roses. And so it will be found on the lower side of the leaves where the stomata give off moisture. It is therefore essential that any spider mite control be directed to the underside of the leaves.

Prevention

This is also a case where it can be said that an ounce of prevention is worth a pound of mites. Spider mites start on the bottom leaves and the best way to discourage them is to leave them no bottom leaves touching the ground on which to start. Since spider mites reside on the underside of the leaves, the removal of the bottom leaves and lax bottom stems also provides access to the undersides of the remaining leaves so you can then spray the mites with something. This is a process I call "underpruning" and it can go a long way toward helping you control spider mites.

Control with Water

Spider mites can usually be controlled with a water wand spray on the undersides of the leaves at the base. This is my main line of defense and was also listed as a major method of control by 42% of the respondents in my survey. I suspect even more use this method as their first line of defense since my survey tended to invite chemical responses.

The water wand I use for mites is a water wand sold by Cecil Stokes who maintains a website at <http://www.waterwand-usa.com/Stokes.htm>. This is a long (48-inch) thin hose attachment with a sprinkler head at the end. The sprinkler head breaks the water into a strong fine stream that is indispensable for washing the undersides of the foliage of roses. The very strong fine spray blasts off spider mites, while the long handle makes it easy to get under the bush.

I use my Cecil Stokes water wand for the control of spider mites often in the summer. In both California and Arizona, I have been able to go through most summers without spraying chemicals at all; in the other years, I have had to revert only occasionally to the use of a miticide.

There are many serious rosarians who minimize the value of washing off mites with water. This view is usually based on the argument that the mites will simply climb back up in a few days. But for me, I find it difficult to believe that a wingless creature 1/64" tall can withstand a flood of water and then climb back up so far. That's like me climbing a pole 966 feet high after being washed off with a thousand gallons of water.

Yet mites do reappear in a couple of days and it does seem like they've not only scaled the heights, but have also brought their family and friends with them. Actually, though, this is an illusion that is explained mostly by the resiliency of their eggs and their amazing powers of reproduction.

Mites reproduce in 3-5 days and do not limit their families to 2.2 children. Instead they lay thousands of eggs. Some of the adult mites are missed by watering or hang fairly tough in their webbing. More importantly, the minute eggs hang on very well. As a result, in 3-5 days a new population will be on its way to becoming established. The key then to any attack on spider mites is to attack the eggs with an ovicide and/or repeat the attack in 3-5 days to eliminate the newly emerging children.

Chemical Controls

The resiliency of mites and their eggs to water washing is the reason that at some point water alone may not be enough to do the job. This usually occurs when the weather becomes very hot and dry since, for reasons unknown to

me, the reproduction of mites increases geometrically with the temperature. This is therefore the time to pull out a heavy weapon.

The most effective weapon available to control spider mites is *Avid*, which is used by 78% of exhibitors in my survey. The active ingredient in *Avid* is abamectin, a natural product produced by the soil microorganism *streptomyces avermitilis* that has the unique life mission of killing mites. It is not disruptive to natural predators or beneficial insects and can be used in good conscience by even the most ardent organic gardener. It is extremely effective and a 1-2 punch over 3-5 days will eliminate mites from your garden for weeks.

A number of exhibitors in my survey expressed concern that *Avid* was no longer doing the job, although these reports were in the clear minority. This concern may be influenced by the fact that *Avid* is most effective when sprayed alone. That is to say, it is best not mixed with other chemicals. Why, I do not know, but I suspect it has something to do with the fact that *Avid* is formulated from a living soil organism.

The effectiveness of *Avid* is also increased by the use of *Stirrup M*, a pheromone, or sex attractant, which greatly stimulates the mites to seek out the *Avid* and their death. Of note, seven of the respondents in my survey use *Stirrup M* to enhance the effectiveness of their miticide.

The incredible ability of mites to reproduce does suggest the need for concern about the development of mite populations resistant to *Avid*. It is therefore a good idea to occasionally introduce another form of chemical control. Here it should be noted that the survey produced 16 reports of the use of the new ovicide *Hexygon*, nearly all favorable. Another new product, *Floramite*, drew 11 reports, again all favorable.

Conclusion

Spider mites will come this Summer to your rose bushes seeking to suck them dry. I don't like them and have already started with the water control. It is time for you to get prepared as well.