

An Evaluation of Rose Defense
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I first became aware of the product *Rose Defense* at a program presented by Dr. Jim Walter of the W. R. Grace Co. at the 1996 Colonial District Fall Meeting & Rose Show hosted by the Potomac Rose Society at Tyson's Corner in McLean, Virginia. The information and slides presented were impressive, claiming it to be a fungicide, insecticide and miticide, all in one product. I was so impressed (and hopeful) that I decided to test it in my 300-rose bush garden in the 1997 growing season.

Rose Defense is made from Neem Oil that is made from seeds from the Neem tree that grows in India and other countries with suitable climates. The Neem tree and its products are used for many things, including insect control in India. We were even told that a toothpaste is made in which it is one of the major ingredients. It ranks low in toxicity to animals and humans and is labeled *CAUTION*, which is the lowest category for toxic pesticides. However, it should be used with caution, even though it is organic in nature. The truth is that some organic pesticides are more toxic than some chemical pesticides, and you always have to check the degree of toxicity by reading the label.

The main reason that I decided to test this pesticide is its relatively low toxicity. I speak to five or six garden clubs and several rose societies every year, and many, if not most, of their members do not like using harsh chemicals. Some hesitate to spray for this reason. Therefore, I would like to be able to recommend a pesticide that is safer for them to use.

Rose Defense is distributed by Green Light Co. and the label states that it is "*for the control of Blackspot, Powdery Mildew, Rust, Spider Mites, Aphids, and Whiteflies on Roses and Ornamental Plants*". Wow! This got me excited. If less than half of this claim proved true, it would still be a valuable pesticide to have in our arsenal.

With this in mind, I set out to test this product during the 1997 growing season, taking some risk by testing it on my entire garden. The label says to mix one ounce (2 tablespoons) to a gallon of water and that the water temperature should be 55°F or above. Actually, I found that for the material, which is a heavy oil, to go into solution well, it needed to be warmed up to room temperature (about 70°F) and mixed in a small quantity of water that is around 100°F. Also, all of the water in your spray tank should be warm and the mixed material should be shaken up or agitated while you spray for best result.

The label directions recommend that you spray every 14 days unless you have a problem; and if a problem develops, then to increase the frequency of spraying to every 7 days.

I elected to spray every 7 days right at the beginning of the season, reasoning that if it were effective you should not ever develop a problem. In other words, if I sprayed every 7 days beginning immediately after my Spring pruning, I should never have any Blackspot, Powdery Mildew or Spider Mites. Wouldn't that be great?

My primary purpose in using this product was to control the three biggest enemies in my garden-- Blackspot, Powdery Mildew and the dreaded Spider Mites. No strong claims are made as a general insecticide, so I was not expecting it to be very effective as a multipurpose weapon against insects.

On March 11, I sprayed my entire rose garden of 300 bushes with *Rose Defense* using **one ounce (2 TBSP) of the concentrated material per gallon of water**. **My intention was not to use any other pesticide unless I ran into a problem.**

On March 20, I sprayed again (second spraying) with *Rose Defense*; on March 29 I began to see some small inchworms and added *Orthene* to the spray mixture to get the inchworms under control. The *Orthene* (75% wettable powder) mixed well with the *Rose Defense*, but I mixed it separately in a small amount of water before blending it with the *Rose Defense* in the sprayer. The next two sprayings I used *Orthene* with the *Rose Defense* and got rid of the inchworms.

On May 1, I began to see some Powdery Mildew here and there, so I added *Sythane* to the *Rose Defense* mixture. The appearance of Mildew indicated to me that *Rose Defense* was not being effective for Powdery Mildew.

For the next five or six weeks, I added *Sythane* or *Rubigan* to the *Rose Defense* in order to control the Powdery Mildew. As of yet, I had not seen any Blackspot, which was a good indication that *Rose Defense* was controlling Blackspot, since I have never found that *Sythane* or *Rubigan* is effective for controlling Blackspot.

On June 21, I began to see evidence of Spider Mite damage in spite of using *Rose Defense* every week. I started using my water wand and spraying separately with *Avid* until the Spider Mites were under control. This was continued throughout the season as necessary.

On June 24, the Japanese beetles arrived (2 to 3 weeks later than usual) and the weekly spraying with *Rose Defense* did not seem to help. By July 6 I grew weary of picking the beetles off by hand and trapping them in a wide-mouth jar with gasoline or soapy water. At this point I started misting the blooms and buds showing color with *Sevin* every second or third day. *Sevin* is very effective in killing Japanese beetles on contact, but has little residual effect because it is biodegradable and breaks down in 24 hours. Still no Blackspot, so I am beginning to feel that *Rose Defense* is at least effective for controlling the Number One fungus problem in our area.

After a very dry early summer, we had very heavy rains from July 16 through July 28. From July 21 to July 28 it rained every day with a total accumulation of 7 inches in 7 days. This is the type of weather than can bring on a heavy outbreak of Blackspot.

On August 5 I began to see some Blackspot for the first time this season. I used a mixture of *Triforene* and *Ultrax Daconil* (actually burning some of the foliage) in place of the *Rose Defense* and then went back to *Rose Defense* on my next spraying.

By the end of August, I had a bad case of Blackspot and cleaned it up by alternating every 4 days with *Fore*, *Ultrax Daconil* and *Funginex* (*Triforene* no longer available). I didn't conclude that *Rose Defense* is not effective for Blackspot, since it had controlled it for five months and since in previous years I have occasionally gotten severe Blackspot in spite of spraying regularly with proven, effective fungicides. If weather conditions are just right, you can get Blackspot in spite of doing all the right things to prevent it.

I continued to use *Funginex*, occasionally alternating with *Daconil*, until October 13, and then started back with *Rose Defense*, using it for Blackspot control until the end of the season (about Thanksgiving).

There was no problem in mixing other pesticides with *Rose Defense* as long as it was done properly. In all cases, when I mixed another material with *Rose Defense*, it was mixed separately in a small amount of water and then blended with the *Rose Defense* mixture in the sprayer.

One positive side effect of using *Rose Defense* that is worth commenting on is that it left the foliage glossy and shiny with no trace of residue. When polishing the foliage for exhibiting, we found that it greatly reduced the time of grooming. It was only necessary to wipe the leaves with a damp paper towel for the foliage to have an excellent appearance. However, one or two exhibitors that I know said that *Rose Defense* left their leaves brittle and that they would crumble and break when being polished. This **was not** my experience.

At the end of a growing season of testing *Rose Defense*, I have concluded that it is effective for controlling Blackspot, since I did not see any Blackspot until early August. In my garden and under my growing conditions, *Rose Defense* **was not** effective for Powdery Mildew, Spider Mites, or Japanese beetles.

Of course, these are conclusions based on my experience in my garden and may not hold true for others in their gardens. Nevertheless, I would not hesitate to recommend *Rose Defense* as a control for Blackspot when it is used properly. It is less toxic than some of the other fungicides that we use to control Blackspot, and this is a very positive factor in its favor.

I will continue to use and test *Rose Defense* in the 1998 growing season.