



Pumpkins N' Roses plus Invasion of the Windborne Spores Steve Connolly



What a wonderful time of the year! Its late summer. The roses are in bloom and the pumpkins are growing. The days are warm and dry and the sun seems to shine unabated by clouds,... every day! It may be a little more humid than you like, but that's OK. The nights are cool and you always can retreat to the shelter of an air conditioned room if it gets too hot during the day. Or maybe sit under a tree, sipping on a cool drink, and enjoy an occasional breeze as you gaze over the Behemoth Orange fruits of your labor. It's a picture perfect day so, grab a camera and take a picture of someone or something, next to your pumpkin, to gage its size, for that winter scrap book review of great memories.

Now look at that picture. Do you see anything wrong? No? Look again. This time much, much closer. It's not really visible to the naked eye yet. But microscopic powdery mildew spores may abound in your garden, and if so, you and your pumpkin patch are totally unaware of the impending doom.



The problem really started last year, and unfortunately, because of some correct food chain conditions, or maybe last years contaminated pumpkin plant debris, in your compost pile, the year round survival of some "special resting spores" occurred. These conditions allowed overwinter survival of the species of a type of powdery mildew that causes disease in cucurbits, lettuce, egg plants, peppers, peas, roses and other certain crops. Powdery Mildews are host specific. There are many varieties of Powdery mildew. Those that attack a cucurbit will not attack some other types of vegetation. They can not survive without the proper host plant. Anyway, once the spores of these Body Snatchers, er Pumpkin Leaf Suckers, have found your patch, its time to understand and deal with your fungal foe.

As stated there are several types of powdery mildew fungi, which have slowly matured from spores, over the summer. Powdery mildew spores are carried by wind to new hosts leaves. The Fungus species that feeds on your pumpkins is called **Erysiphe-cichoracearum**. They exponentially thrive in late summer conditions of dry heat, coupled with cool afternoons and evenings with humidity's up to 90%. Shaded leaves in areas of poor circulation are more likely ideal conditions for this problem too. But oddly, it does not occur when leaf surfaces are really wet (e.g. in a rain shower).

As stated there are several types of powdery mildew fungi, which have slowly matured from spores, over the summer. Powdery mildew spores are carried by wind to new hosts leaves. The Fungus species that feeds on your pumpkins is called **Erysiphe-cichoracearum**. They exponentially thrive in late summer conditions of dry heat, coupled with cool afternoons and evenings with humidity's up to 90%. Shaded leaves in areas of poor circulation are more likely ideal conditions for this problem too. But oddly, it does not occur when leaf surfaces are really wet (e.g. in a rain shower).



They all produce similar symptoms on plants. Powdery mildews' are characterized by spots or patches of whitish talcum powder like growth. The severity of the disease depends on many factors: variety of the host plant, age and condition of the plant, and weather conditions during the growing season. Leafs infected with powdery mildew may gradually turn completely yellow, become crispy dry and decay or fall off.

Powdery mildew fungal growth does not usually grow on your Giant Pumpkin fruits. But severely infected plants may produce smaller AG fruits, due to a general shut down of the plants vascular system because of its inability to photosynthesize and subsequently an inability to draw nutrients from the soil, since most of the leaves are dead or dying.

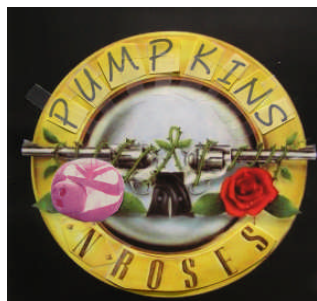
Since we have not yet developed a **resistant variety of Giant Pumpkin** (that I am aware of), I thought you ought to at least be aware of several cultural practices that can reduce or prevent powdery mildews.

- Avoid late summer applications of nitrogen fertilizer, to limit the production of succulent tissue which is more susceptible to infection. (you should be increasing your potash applications during August, anyway, to bulk up your Pumpkins for the final month of growth and weight gain).
- Avoid late season overhead watering to help reduce localized relative humidity, and to prevent the washing off of any sprayed fungicides, which will be discussed later in this article).
- Remove and or destroy all infected plant parts (leaves, etc.). Throw it in the trash if necessary . For infected pumpkin plants, remove as much of the plant and its debris in the Fall as possible. This decreases the ability of the fungus to survive the winter. Do not compost infected plant debris. The temperature of your compost pile never gets hot enough to kill the powdery mildew fungus.
- Selectively prune overcrowded plant material to help increase air circulation in your patch. This helps reduce some shading, relative humidity, and infection.

Now is the time to make a stand. It's mid July, and preventative maintenance must start now, if you want healthy productive leaves on you plant all the way up until Weigh-off time. In some situations, especially in the production of our susceptible Atlantic Giant cucurbits, fungicides may be needed. Fungicides function as protectants, eradicants or both. A protectant fungicide prevents new infections from occurring whereas an eradicant can kill an existing powdery mildew infection. Apply protectant fungicides to highly susceptible AG Pumpkin plants before the disease appears. Use eradicants at the earliest signs of the disease. Once mildew growth is extensive, control with any fungicide is more difficult.

I've received some great results using the **advice of Rose growers**. They too must deal with powdery mildew, downey mildew and leaf black spot. They have extensively networked groups that probably out-number us 1000 times over, worldwide. Plus they have been growing and competing for century's to produce the most beautiful rose. Needless to say, we can learn a lot from them They (rose growers) refer to numerous effective fungicides like:

Banner Max
Serenade
AQ-10
Heritage
E-RASE



Eagle 20EW
Daconil
Immunox
Clearys 3336
Compass

All of these can be mixed with water and foliar sprayed. Its best to alternate, and use two to three different types of the above fungicides, each week you spray, during a growing season. Spray in the early morning or late afternoon near sunset, not during the mid day heat. And you should only apply your choice of fungicide, every 7 to 14 days, unless rain or your sprinkler is used between applications, since water can rinse a protective fungicide off the leaves. For further advice, I highly recommend web sites like: www.rosemania.com , www.rosecare.com, or for the best prices and selection visit www.Pumpkin Supply.com, and email Matt Wickless.