

BLOWING the FROTH off MR. FOAMY

PART 1 OF 2

by: Ron Wallace

The name Mr. Foamy to some may conjure up images of your favorite bubble bath from child hood. But here in the pumpkin patch Mr. Foamy may now be arch enemy number 1! With no specific means to stop it (yet) a foaming stump will definitely hinder the final weight of your pumpkin.

Over the past 3-seasons I have been studying base foaming (hence the name Mr. Foamy). I have spoken many growers through out the Unites States and Canada to find out as much information as I could about this strange phenomenon. What I have found is that certain areas, (for example: New England and Ohio) have much more foamers than most areas. Some areas like the Pacific North West have had little or no foamers reported.

By examining local patches and my correspondence with growers I have found that cooler climates have fewer foamers. Could the foamers be heat related? I don't think so based on the 2009 cooler growing season in the North East and our more than ample foamers this year. The first time I had seen a foaming stump was in 2005 in our garden. Not knowing much about it and how to treat it, the foam rotted away the stump and several side vines before we cut and removed the rotting areas. In 2006 we moved to a new garden once again we had a few foamers. Most notably on Pap's subsequent 1450. We new a little more of how to treat it but with the stump and a few vines gone the weight dropped from 30-20 pounds a day. But we were able to keep a majority of the plant healthy to years end.

DISEASE TESTING:

I have sent stumps that have foamed along with a sample of the foam and water it releases, and have had testing done at two prominent labs. Both did not want to go on record with their findings because they were "non scientific" with not enough evidence either way to prove what was causing the foam. Here are a few quotes from my lab results.

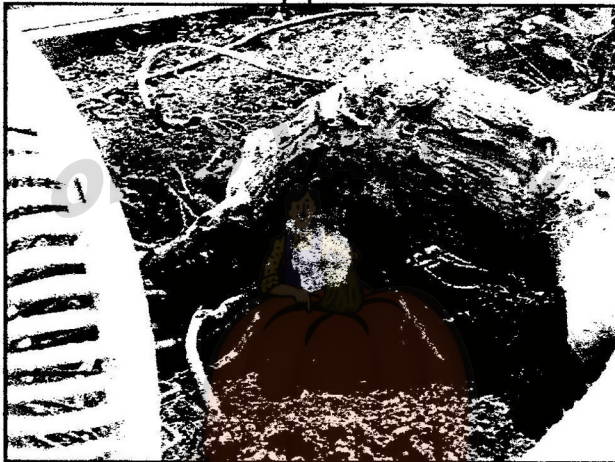
- Non pathogenic
- Bacterial infection brought on as a secondary infection. Cause of initial infection not known
- Growth related stress from pumpkin sink effect

One of the labs most prominent scientists took our photos and lab results to a national conference. No one had ever seen anything like it. For the past few years like many I think the foaming stumps have been miss diagnosed as Fusarium Crown Rot, Bacterial Soft Rot and Sclerotinia just to name a few.

I personally know of many growers who have been stead fast with drenching their patches every 7-10 days to fight off Mr. Foamy. To this date nothing has worked. For this reason I feel that the foaming is initially not a disease issue. The "blow out" of the bacterial froth, is however, and must be treated when seen.

VICTIMS OF OUR OWN SUCCESS?

So, what has changed over the last several years that we now must deal with this problem every year? There is no doubt that over the last 3-4 years the hobby has learned to fine-tune our growing skills. Everything is geared for maximum growth. Our soils are turbo charged with the finest and copes amounts of organic matter. The genetics of our seeds have been breed for explosive growth. Vine length is limited to a certain distance so to push more energy, quicker to the pumpkin. Can the foaming be a result of our super charged systems? Could it be that certain plants are not able to disperse all of its water causing a post secondary bacterial infection? (Aka the "foam"). So what conditions favor a foamer? Here is what we do



know from our "field trials".

- If you are going to get a foamer it will take place from late July to roughly the third week of August.
- Recent heavy amounts of rain or watering will trigger a foamer
- Most vines to the pumpkin will be terminated before a foamer will start
- Fruit load stress (heavy pumpkin growth)
- Poor timing of fruit growth versus a totally dead-headed plant (slow pumpkin growth on a very big plant)
- High levels of nitrogen

In part two of our Mr. Foamy article (December newsletter) we will get into the results from this past season. We are monitoring 35 plants from four different growers with "many" foaming to date. One grower has 8-plants with no foamers to date. What did he do different this year, when he had foamed in the same patch the previous year? We will also detail the following:

- How to care for a foamer
- How much can I expect to grow after foaming
- What controls can I take to avoid Mr. Foamy

BLOWING THE FROTH OFF OF MR. FOAMY (Part 2)

by: Ron Wallace

The 2009 season may have been the "perfect storm" on the east coast if you were going to get a foaming crown, as record rainfall dominated the entire season. I outlined in our September newsletter that we were monitoring 35 plants grown in Rhode Island and Massachusetts. Out of 35 an incredible 15 plants were foamers! An alarming increase over previous seasons.

So what were the common denominators from those patches that had the most foamers?

- Foamed after a seven day rainfall total of slightly over 4 inches
- Big plants that were mostly "dead ended"
- Soils that had higher levels of organic matter (especially nitrogen)
- Cooler temperatures with below average pumpkin growth on plants

Quite possibly the record rainfall and cooler temperatures received in 2009 contributed to all the foamers. The timing on most of the pumpkins in all our patches was off considerably from previous seasons. Most plants had filled their allocated spaces but the pumpkins just did not seem to ever "kick in". One grower in New Hampshire who never experienced a foamer had one this year. When talking to him recently he explained that the foaming "happened right after a night that nearly two inches of rain fell".

I was lucky enough in 2009 to only get one foaming crown out of 8-plants. (Happened on a big plant with my slowest pumpkin) What did I do differently? To start my patch was lower in Organic matter. Vine growth never seemed to be going at the same pace as other growers around me. Most growers had almost half of their plant ended and I was just starting on my first sets of side vines. Fearing a foamer I did not water the crown area of my plants from August 1st on.

Many growers have emailed and asked if they thought the biological drenching program I was on helped me with the foamers? In my opinion, no. Because, there was other plants on this same program that had considerable foamers. I mentioned in our September newsletter that I thought the foaming is in no way a disease issue (at first), after this past season I still feel this is the case.

I also received emails from growers after our September newsletter that had foamers this past season or have experienced them in the past. (Thank you everyone for your participation) Those that emailed experienced very similar conditions that I have mentioned in this article. So what measures can we take to avoid Mr. Foamy?

1. Avoid heavy applications of manure.
2. Try to stagger the dead ending of side vines
3. Position protective cover to shield excess water away
4. Avoid heavy watering around the crown area of the plant from August on
5. Set fruit a little closer to the crown than in years past

Most of the growers who had considerable foaming (over 50% of their plants) were all on plants that had pumpkins set around 14-16 ft out on the main. Could it be that this enormous "food factory" bringing tremendous amounts of water and nutrients back to the crown area is contributing significantly to the crown foaming? Based on last years results I would have to say yes. A pumpkin set a few feet closer may be enough to shift the timing from plant growth to fruit growth in time to distribute the plants water more efficiently.

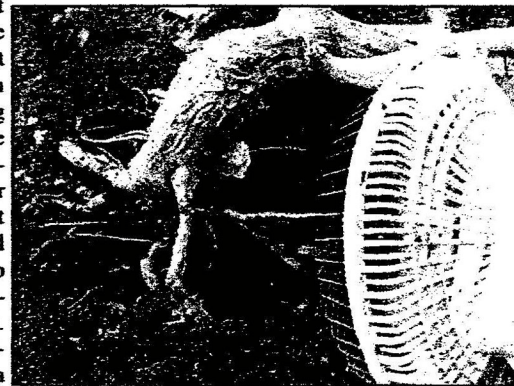
Humidity is something that we can't control but it may be a key element to the age-old question of why certain regions get foamers and others don't. After the release of our September newsletter article I was contacted by a notable plant scientist (who receives our newsletters). He asked if I have ever given much thought to the increased levels of humidity the east coast receives? He explained to me in detail how plants respire (breathe) and how transpiration takes place. The process by which a plant loses water from leaf stomata. Higher levels of humidity restrict the transpiration, because humid air is saturated with water vapour. It is as suggested that because of the humidity our plants are retaining too much water, this along with a combination of other factors maybe increasing our odds of getting a foamer.

Do some genetic lines add to your chances of getting a foamer?

A prominent grower thinks so, and is working on a particular genetic line that his patch has not foamed, while other genetic lines in his patch have. Only time will tell if this experiment proves out.

How to treat and care for a foamer?

As out-lined in our September newsletter a foamer will usually happen from late July till mid August. During this time you need to be checking your crown daily (I check mine twice a day) if you notice the ground near your crown is dry except for a wet spot on one side, you need to act quickly. Quick action is a key to saving your crown. What we do is carefully remove some dirt near the crown area (wet spot). Once removed you should be able to see clear liquid dripping from the crown. Carefully take a sanitized knife and cut a hole where the fluid

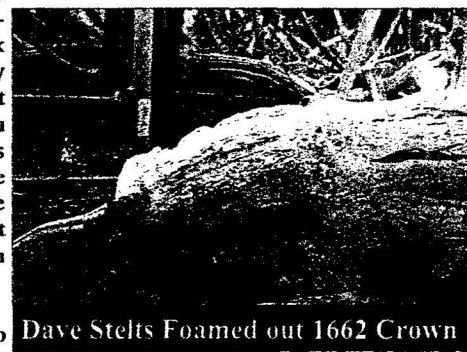


is leaking. Most of the time you will hear a loud hiss. (Like a can of soda pop opening) This is the bacterial infection frothing inside the crown. Water and or foam will run freely for a few days (or longer) from this opening. Sanitize the opening daily and make a pathway for the water/foam to run away from your crown. Sometimes if you can't establish a good flow of liquid, (or the foaming is excessive) it may be necessary to "file" the crown. (See photo) We have done this with success on severe cases. I actually used a turkey baster to remove water from inside the crown. (Some growers will opt immediately for filleting the crown.) It is essential to keep the crown area dry, sanitized and exposed to the sun during the day. (A fan during the day also helps dry up the wound). A cover for the crown area of the plant when rain is called for will also help. If not identified in time the foaming liquid will eventually work its way down the main vine and your season for this plant will be over.



Can I grow a big pumpkin on a foaming crown?

Yes! Dave Stelts battled a foamer (see photo) and grew the fourth largest pumpkin of all time! (1662) After foaming daily weight gains usually drop a bit but Dave experienced no significant drop off while caring for his foamer. To reiterate you have to be on top of a foamer immediately! If you don't check your plants/crown daily chances are you will not notice a problem until you see wilting leaves. (At this point it is too late) Dave Stelts is a very aggressive grower and his fast "filleting" of the crown possibly saved this plant.



Dave Stelts Foamed out 1662 Crown

In closing there is no doubt in my mind that the foamers have been a result of our efforts to grow the "mother" of all pumpkins. From increased soil biology, genetics and plant technique. Quite simply at times the crown cannot take all of the water and nutrients being fed to it. Some of the things we noticed in 2009 should serve us better in the future with avoiding foamers. If you have experienced foaming in the past and you try one of our suggestions mentioned here Please email me at seasons end and let us know whether you think it helped or not. Working together and sharing ideas we will overcome and continue the march towards 2000 pounds (Foam free)!

(Thanks to Dave Stelts, and Quinn Werner for sharing their thoughts with me for this article).