

Pythium Control Options

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Pythium, the perennial problem. Not only does it hurt us agronomically, but controlling Pythium chemically greatly impacts our budget, both as a curative or preventative program. Many clubs, including mine, do not have the budget to cover wall to wall two or three times a year with a Pythium control program.

Last mid-summer, I was visiting with John Steiner, CGCS and amateur plant pathologist, at the White Bear Yacht Club about my challenges. He had mentioned that another superintendent from a south metro course was having good luck with a new product controlling Pythium on a preventative basis at a lower cost. At first I thought was this is too good to be true, a new hocus-pocus product, however John's professional endorsement encouraged me to investigate further.

At about the same time, one of my vendors introduced me to PHOSGARD, which is a close product to the one that the superintendent in the south metro was using. I needed some answers, so I called J.H. BIOTECH, the company who manufactures PHOSGARD. I was introduced to a chemist named Dr. Fernandez. My excitement mounted as his professional insight gave me pause to think.

Dr. Fernandez informed me that they have two products, PHOSGARD which is labeled as a nutrient and FOSPHITE which is labeled as a fungicide; same product different labels. Tom Dullan, Dr. Fernandez's assistant, explained to me that PHOSGARD and FOSPHITE are the pure form of an already available Pythium control product. Except, the Biotech product contains no Aluminum ions, an additive used to produce the product in a wettable powder form.

The active ingredients in these liquids(as in the other more common fungicide that we have used) are HPO₃ and H₂PO₃. Both are oxidized by an enzymatic reaction to form HPO₄. This form of phosphite is readily available to the plant and does not tie up in the soil like P₂O₅ (phosphate) does. The phosphite ion is then absorbed by the plant and any excess that the plant does not use is extruded through the root tips and acts as a contact fungicide to soil-borne Pythium. It is believed that the conversion process actually robs the pathogen of the necessary oxygen molecules needed for survival. It is my understanding that whatever phosphorous product you use should be in the phosphite form and not the phosphate form.

There is one other important point here. The form of phosphorus in PHOSGARD and in the other products is listed under the title of Available Phosphoric Acid (P₂O₅) (AOAC Method 960.02). AOAC is abbreviation for Association of Official Analytical Chemist. This is a book that you can look up the number, method 960.02 and this will inform you of the form of Phosphous. It is not the form P₂O₅ as it may seem. The information that I have found is only part of a very complex process.

There are several tried and true products that can control Pythium preventatively and their active ingredient will vary. However, I am going to experiment with PHOSGARD as my preventative fungicide program for Pythium control . The cost saving is very significant, and if the product holds up to it's claims, I will be a hero.

I am excited about using this new tool in my greens program. An added bonus is that PHOSGARD is also a nutrient to the grass plant. Combining Phosgard with a soluble nitrogen source will be the back bone of my spoon feeding program. Also I will keep track of my soil tests and supplement any micros that may be lacking.

A bit of magic? Perhaps, however if I can provide my clientele with optimum playing conditions at a lower cost then I will be considered a true wizard.

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