

Seed Treatments

Last year, I wrote a newsletter article about seed treatments. So far this winter, I have not received any new information about seed treatments. I did, however, want to review seed treatments and I was hoping to put extra emphasis on seed treatments in soybeans.

Because of our interesting weather patterns for the last couple of years, it seems like we have been forced to change our rotations to accommodate whatever piece of ground is ready to plant first. This has caused many growers to plant more soybeans on soybeans, or have tight rotations with dry beans and/or sugarbeets. Root diseases are becoming more and more of an issue all the time. Aside from that, it looks like we may be having a cool, wet spring which is a perfect breeding ground for root diseases in soybeans.

Situations where I would recommend seed treatments in soybeans for 2010 are cool, wet soils; soils prone to phytophthora or rhizoctonia; and cropping rotations that will be soybeans on soybeans. There are other situations where treatments are appropriate as well. If you have more questions, get in contact with your local Halstad Elevator Agronomist and visit with them about how a seed treatment could be implemented into your operation.

What is the purpose of a seed treatment?

The most recent local research on soybean seed treatment was done by Carl Bradley (former plant pathologist at NDSU) According to Carl Bradley “Soybean seeds may be treated with fungicides to improve stand, protect against seedling infection by some pathogens, and reduce the spread of diseases which may be carried on or in the seeds.” He also goes on to say that in cool, poorly drained soils, they can help to ensure a more uniform stand. (Please see the link below with all his seed treatment information.)

According to Marcia McMullen and H. Arthur Lamey also plant pathologists at NDSU (see the link below to their info. About cereal seed treatments), “Fungicidal seed treatments are used for three reasons: (1) to control soil-borne fungal disease organisms (pathogens) that cause seed rots, damping-off, seedling blights and root rot; (2) to control fungal pathogens that are surface-borne on the seed, such as those that cause covered smuts of barley and oats, bunt of wheat, black point of cereal grains, and seed-borne safflower rust; and (3) to control internally seed-borne fungal pathogens such as the loose smut fungi of cereals”

What diseases do they control?

In my experience, seed treatments are important on wheat and soybeans for a few specific diseases. In soybeans, we want to watch fields that are prone to Phytophthora, Pythium, Rhizoctonia, and Fusarium. Certain soils and farming practices tend to be more or less prone to each of these diseases based on cropping rotation, field history, and available

moisture. Generally speaking the cooler and wetter the soils, the more response to fungicide seed treatments. So keep treatments in mind if you plan on planting early this year and talk to an agronomist about your individual field situation.

Wheat also has a number of diseases that can be easily controlled with a seed treatment. If you read the link to Marcia McMullen's wheat information, you can read about all the diseases. One disease that I would like to highlight is smut. It seems to me that in recent years wheat seed treatments have been getting used less often than in the past, and I have been seeing more and more of this at heading time. This disease is easily controlled with the right fungicide seed treatment.

Is there any data out there about seed treatments?

Yes, Please note Carl Bradley's data on Soybean seed treatments from 2003 and 2004. The environmental conditions from these springs were different. I would like to especially note spring 2004, since it was cooler and wetter spring. There is a possibility that we could be setting up for that type of spring again this year.

Please Note the Websites below. They contain some excellent information about seed treatments.

<http://www.ndsu.nodak.edu/soydiseases/treatments.shtml#2003> - Soybean Seed Treatment Data from 2003

<http://www.ag.ndsu.edu/extplantpath/old/Ext%20Plant%20Path%20Web%20Site/Fungicide%20Trial%20Data/2004%20Soyseed%20treatments.htm> - Soybean Seed Treatment Data from 2004

<http://www.ag.ndsu.edu/pubs/plantsci/crops/pp447w.htm#Cereal> - Cereal Seed Treatment Information

<http://www.ndsu.nodak.edu/soydiseases/treatments.shtml> - Soybean Seed Treatment Information