

Integrated Pest & Crop Management

Soybean Seed: To Treat or Not to Treat

By Laura Sweets

The 2009 season is shaping up to be an interesting and challenging season. Right now there are still questions on whether or not to treat soybean seed with seed treatment fungicides.

Soybean seed treatment fungicides can be effective in preventing or reducing damage from pathogens that may be carried on the seed or pathogens present in the soil that cause seed decay, seedling blights and root rots of soybean. Soybean seed treatment fungicides are recommended if there is a concern about seed-borne diseases (ex. Phomopsis seed decay), if the field has a history of a specific early-season soybean disease (ex. field has a history of *Phytophthora* root rot) or conditions at planting are not favorable for rapid germination and emergence thus favoring early-season soybean diseases (ex. cold and wet soils might favor *Pythium* seed decay and seedling blight). Soybean seed treatment fungicides will not improve the germination of seed that has a poor germination rate because of physical cracks in the seed coat, weathering during the seed production year and other physiological factors.

Although it is still early for soybean planting, weather conditions thus far have been cool and wet. In many areas of the state soils are saturated. If this weather trend continues there could be increased risk of soil-borne pathogens such as *Pythium* sp. and *Phytophthora* causing more widespread problems than usual. This is certainly a year in which the decision to use a seed treatment fungicide should be considered carefully.

There are certain scenarios under which treatment of soybean seed with a seed treatment fungicide would still be a wise consideration. These include the following:

1. If there is a legitimate concern that seed is infested or infected with a seed-borne disease.
2. If the field being planted has a history of a specific early-season soybean disease such as *Phytophthora* root rot, *Pythium* seed decay and seedling blight, *Fusarium* root rot or *Rhizoctonia* root rot.
3. If conditions at planting are not favorable for rapid germination and emergence. This could include early planting or planting when soil temperatures are below 55 degrees Fahrenheit.
4. If the variety being planted is a high yielding variety that is disease-susceptible, especially

a variety with little or no resistance and/or field tolerance to *Phytophthora*.

A number of products are labeled for use on soybean seed. Basically these products can be divided into fungicides that are effective against the water mold fungi *Pythium* and *Phytophthora* or those effective against fungi other than *Pythium* and *Phytophthora*, i.e. *Rhizoctonia*, *Fusarium*, *Macrophomina* and other soil or seed-borne fungi. Metalaxyl and mefenoxam are labeled for use against *Pythium* and *Phytophthora*. These active ingredients are available alone or in combination with other soybean seed treatment fungicides. Azoxystrobin, captan, carboxin, fludioxonil, PCNB, TBZ (thiabendazole), thiram and trifloxystrobin are labeled for use against fungi other than *Pythium* and *Phytophthora*. These active ingredients are available alone, in combinations or in combination with products effective against *Pythium* and *Phytophthora*. See University of Missouri Extension Publication M171, "2009 Missouri Pest Management Guide: Corn, Grain Sorghum, Soybean and Winter Wheat" for tables of seed treatment fungicides labeled for use on soybean.

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