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Maintain Early-Season Plant Health to Achieve Optimum Yield

As soybean producers continue the trend of planting earlier to achieve higher yield, they unknowingly expose young seedlings to many diseases that reduce stand and ultimately yield. Yet, the use of a fungicide seed treatment to promote healthy roots is a little used management tool. Soybean producers striving for higher, and more consistent, yield may wish to consider the additional investment.

Several seed treatments are labeled to promote early-season seed and root health. However, some seed treatments appear to be more effective on key pathogens while others have no activity at all.

“Using combinations of fungicides will broaden the effectiveness against several different diseases,” says Dr. Anne Dorrance, plant pathologist at The Ohio State University. “It’s an easy way to spread your risk.”

Not everyone needs a seed treatment to reduce stand loss from diseases. Dorrance recommends that soybean producers should use seed treatments only on those fields that promote the establishment of the pathogen and if you know you are planting a susceptible variety.

“The cost of the seed treatment is too high to be used on all your acres,” says Dorrance. Most seed dealers are charging \$2.50 to \$3.00 per bag for the fungicide and the seed is non-returnable.

How do growers know if they need a fungicide applied to their seed? Experience mostly. Growers know which parts of a field tend to be wetter. If you are planting early and have soils that dry slowly it’s a good bet you could benefit from the use of a seed treatment. If you are planting into heavy residue, and your soils warm more slowly, you may also benefit from seed treatments.

The benefits of using a seed treatment are not as clear in areas outside Ohio. Researchers in other states have also

looked at the use of seed treatments and have reported mixed results. In years that produce cool, wet soils seed treatments are pretty effective. However, they are less effective in years when soils warm more quickly.

So what is a grower to do? If you know you are going to be planting earlier than normal and your soils have high clay content, try treating your seed with a fungicide. Then, fill half the planter with the treated seed and the other half with untreated seed of the same variety. Monitor the strips closely, check for differences in population and for dying seedlings. Your yield monitor will ultimately tell you the right answer.

Relative efficacy of fungicide seed treatments for control of certain diseases of soybeans in Ohio.					
Trade Name	Active Ingredient	Phomopsis seed rot	Phytophthora damping off	Pythium damping off	Rhizoctonia seedling blight
Allegiance	Metalaxyl	N	E*	E	N
Apron XL	Mefenoxam	N	E*	E	N
Maxim	Fludioxonil	E	N	N	G
Rival	Captan, PCNB, TBZ	E	N	P	G
Stiletto	Carboxin, thiram, metalaxyl	G	F	G	G
SoyGard	Metalaxyl, azoxystrobin	P	F	G	G
YieldShield	Bacillus pumilus	N	N	N	F

Efficacy based on labeled rates of active ingredient for each material.

Efficacy rating scale: E=excellent, G=good, F=fair, P=poor, N=no activity, ND=no data

*Control of Phytophthora damping off only at the higher labeled rates. Low rates of Metalaxyl and Mefenoxam do not control Phytophthora but they do control Pythium.