

Seed Treatments For Soybean

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Diseases reduced soybean yields and soybean farmer profits in the U. S. A. each year from 1996 to 2010. The greatest yield losses each year were caused by soybean cyst nematode followed by Phytophthora root rot, and seedling diseases. This was also true in Missouri during 2006 to 2010. The estimated value of yield losses due to seedling diseases in Missouri was \$16.8 million in 2007, \$10 million in 2008, and \$12 million in 2009.

These dollars would have been in Missouri farmer pockets if not for diseases. Seedling diseases impact yield by reducing stand and occasionally causing complete loss of stand in a field or parts of a field. Plants that survive initial infection generally have a permanently damaged root system that is not able to provide adequate water and nutrients to above ground parts of plants for best plant growth and yield.

Seedling diseases are caused by several different pathogens. Crop rotation and tillage are not useful for management of seedling diseases. Soybean varieties resistant to all the pathogens that cause seedling diseases are not available. The only method available to farmers for protecting soybean seed and seedlings from these

diseases is treatment of seed with fungicides; a list of current labeled fungicides for soybean seed treatment compiled by Dr. Laura Sweets with MU Extension is at <http://ppp.missouri.edu/pestguide/disease.cfm>. Unfortunately, we have little information on how well currently available fungicide seed treatments protect soybean against these diseases at multiple locations in Missouri. In our 2010 soybean fungicide seed treatment test in southeast Missouri, treatment of seed with trifloxystrobin + metalaxyl significantly increased soybean yield 3 bu/acre compared to seed that were not treated. Results from similar tests may vary at other locations and years.

Our goal is to determine if currently available fungicide seed treatments protect soybean against seedling diseases at 20 locations around Missouri during 2011 and 2012. The results available show that seedling diseases developed in only one of the 20 locations during 2012. The treatment that provided the best protection against seedling diseases was Trilex 2000.

More information will be available after harvest and all will be presented during upcoming University of Missouri Extension meetings. Δ

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