



SOYBEAN FOLIAR AND STEM DISEASE MANAGEMENT UPDATE

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With soybean prices up, management of foliar and stem diseases and yield enhancement will likely be of concern for soybean production in parts of Minnesota. Foliar and stem diseases of soybean typically start to appear in late June and early July. Although the yield response to foliar application of fungicides on soybean have been inconsistent in Minnesota over the past two years, there continues to be interest in the use of foliar fungicides. A number of changes have recently occurred in the registration of fungicides for use on soybean in Minnesota.

Common foliar diseases of soybean in Minnesota are Septoria brown spot, bacterial blight, Cercospora leaf blight, and downy mildew. None of these diseases typically cause significant yield reductions in Minnesota, but they can cause yield loss under severe conditions. Although soybean rust has not yet been found in Minnesota, it remains a potential threat to soybean production, and could be much more damaging than all of the other foliar diseases of soybean combined. These diseases are typically most severe during wet and humid conditions, and fungicides can be effective for their management.



Symptoms of Cercospora leaf blight, bacterial blight, and Septoria brown spot (left to right) on soybean leaves.



Soybean rust pustules on the bottom of a soybean leaf.

Stem diseases that are common in Minnesota include anthracnose, pod and stem blight, brown stem rot (BSR), stem canker, and white mold. These can be significant, yield-reducing, problems, and one or more of these typically appear in Minnesota each year. Genetic resistance is of value for some of these, such as BSR and white mold. The value of fungicides for reducing yield losses due to stem diseases of soybean in Minnesota has been unclear and inconsistent.

Few fungicides were available for application to soybeans in Minnesota until recently, with the exception of several for emergency management of soybean rust. A number of new fungicides have recently become registered for use on soybeans in Minnesota. Some of these are exclusively for emergency management of soybean rust (section 18 registration status), and an increasing number are available for management of several soybean foliar and stem diseases (section 3 registration status). The table shown below was updated with information from the USDA as of June 22, 2007, but keep in mind that some of this information may change at any time. Prior to using any agricul-

tural fungicide, read and follow directions on the label for that fungicide. Reference to specific products does not imply endorsement by the University of Minnesota, and discrimination is not intended against similar products that may have been inadvertently omitted from this table. Additional information on the section 18 registration status

of fungicides for Minnesota can be found at a Minnesota Department of Agriculture web site

www.mda.state.mn.us/chemicals/pesticides/section18ee

Table 1. Fungicides registered in Minnesota for management of soybean rust and/or other diseases - 2007. This list was updated 6/22/07, but the registration status of these and other fungicides is subject to change. Please read product labels and check with company representatives before planning to use any of these fungicide products.

Fungicide	Trade Name	Fungicide Family	Primary Activity
Section 3 Registration			
azoxystrobin	Quadris	strobilurin	pre-infection
chlorothalonil	Bravo, Echo, and Equus	chloronitrile	pre-infection
myclobutanil	Laredo	triazole	pre/post-infection
propiconazole	Tilt, Propimax, Bumper	triazole	pre/post-infection
propiconazole + azoxystrobin	Quilt	triz + strob	pre/post-infection
pyraclostrobin	Headline	strobilurin	pre-infection
tetraconazole	Domark	triazole	pre/post-infection
trifloxystrobin + propiconazole	Stratego	triz + strob	pre/post-infection
Section 18 Special Use Registration			
cyproconazole	Alto	triazole	pre/post-infection
cyproconazole + azoxystrobin	Quadris Xtra	triz + strob	pre/post-infection
flutriafol	Topguard	triazole	pre/post-infection
flusilazole	Punch	triazole	pre/post-infection
metconazole	Caramba	triazole	pre/post-infection
tebuconazole	Folicur, Orius, Uppercut	triazole	pre/post-infection
tebuconazole + pyraclostrobin	Headline SBR	triz + strob	pre/post-infection