



Fungicide Efficacy for Control of Soybean Seedling Diseases

The members of the **North Central Regional Committee on Soybean Diseases (NCERA-137)**, with the support of the United Soybean Board, have developed the following ratings for how well fungicide seed treatments control seedling diseases of soybean in the United States. Efficacy ratings for each fungicide active ingredient listed in the table were determined by field testing the materials over multiple years and locations by the members of this group, and include ratings summarized from national fungicide trials published in *Plant Disease Management Reports* (and formerly Fungicide and Nematicide Tests) by the American Phytopathological Society at www.apsnet.org. Each rating is based on the fungicide's level of disease control, and does not necessarily reflect efficacy of fungicide active ingredient combinations or yield increases obtained from applying the active ingredient.

The list includes the most widely marketed products available. It is not intended to be a list of all labeled active ingredients and products. Additional active ingredients may be available, but have not been evaluated in a manner allowing a rating. Products listed are the most common products available as of the release date of the table; all available products may not be listed. Additional active ingredients may be included in some products for insect and nematode control; however, only active ingredients for pathogen control are listed and rated.

Many active ingredients and their products have specific use restrictions. Read and follow all use restrictions before applying any fungicide to seed, or before handling any

fungicide-treated seed. This information is provided only as a guide. It is the applicator's and user's legal responsibility to read and follow all current label directions. Reference in this publication to any specific commercial product, process, or service, or the use of any trade, firm, or corporation name is for general informational purposes only and does not constitute an endorsement, recommendation, or certification of any kind by members of the group. Individuals using such products assume responsibility for their use in accordance with current directions of the manufacturer. Efficacy categories: E=Excellent; VG=Very Good; G=Good; F=Fair; P=Poor; NR=Not Recommended; NS=Not Specified on product label; U=Unknown efficacy or insufficient data to rank product. Ratings of NR may mean that the fungal group listed is not a target of the specific fungicide active ingredient.

Efficacy ratings may depend on the rate of the fungicide product on seed. A number of different species of *Pythium* and *Fusarium* impact seed and seedling health in soybean. Therefore, wide ranges in efficacy may be observed in fungicide active ingredients listed in the table. This is why several fungicide active ingredients are combined in seed treatments to provide protection to a broader spectrum of pathogens. Contact your local extension plant pathologist for recommended fungicide product rate information for your area.

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Fungicide Active Ingredient	<i>Pythium</i> sp. ¹	<i>Phytophthora</i>	<i>Rhizoctonia</i> sp.	<i>Fusarium</i> sp. ^{1,3}	Sudden death syndrome (SDS) (<i>Fusarium virguliforme</i>)	<i>Phomopsis</i> sp.
azoxystrobin	P-G	NS	VG	F-G	NR	P
carboxin	U	U	G	U	NR	U
ethaboxam	E	E	NR	NR	NR	NR
fludioxonil	NR	NR	G	F-VG	NR	G
fluopyram	NR	NR	NR	NR	VG	NR
fluxapyroxad	U	U	E	G	NR	G
ipconazole	P	NR	F-G	F-E	NR	G
mefenoxam	E ²	E	NR	NR	NR	NR
metalaxyl	E ²	E	NR	NR	NR	NR
oxathiapiprolin	P-G	E	NR	NR	NR	NR
PCNB	NR	NR	G	U	NR	G
penflufen	NR	NR	G	G	NR	G
prothioconazole	NR	NR	G	G	NR	G
pydiflumetofen	NS	NS	NS	NS	VG	NS
pyraclostrobin	P-G	NR	F-G	F	NR	G
sedaxane	NR	NR	E	NS	NR	G
thiabendazole	NR	NR	NS	NS	P	G
trifloxystrobin	P	P	F-E	F-G	NR	P-F

¹Products may vary in efficacy against different *Fusarium* and *Pythium* species.

²Areas with mefenoxam or metalaxyl insensitive populations may see less efficacy with these products.

³Listed seed treatments do not have efficacy against *Fusarium virguliforme*, causal agent of sudden death syndrome.

Common Fungicide Trade Names and Active Ingredients

Fungicide(s)	
Product/Trade Name	Active Ingredient
Acceleron®	DX-612 fluxapyroxad DX-309 metalaxyl DX-109 pyraclostrobin
Allegiance FL®	metalaxyl
Allegiance LS®	metalaxyl
Apron XL LS®	mefenoxam
ApronMaxx RFC®	fludioxonil mefenoxam
ApronMaxx RTA®	fludioxonil mefenoxam
CruiserMaxx®	fludioxonil mefenoxam
CruiserMaxx Advanced® or Cruiser Maxx Plus®	fludioxonil mefenoxam
CruiserMaxx Vibrance® or Vibrance Trio®	fludioxonil mefenoxam sedaxane
Dynasty®	azoxystrobin
EverGol Energy SB®	metalaxyl penflufen prothioconazole
ILEVO®	fluopyram
Inovate Pro®	ipconazole metalaxyl
Intego®	ethaboxam
Lumisena®	oxathiopiprolin metalaxyl
Maxim 4FS®	fludioxonil
Mertect 340F®	thiabendazole
Prevail®	carboxin metalaxyl PCNB
Salstro	Pydiflumetofen
Trilex 2000®	metalaxyl trifloxystrobin
Vibrance®	sedaxane
Warden CX®	fludioxonil mefenoxam sedaxane
Warden RTA®	fludioxonil mefenoxam

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The Crop Protection Network (CPN) is a multi-state and international collaboration of university and provincial extension specialists, and public and private professionals who provide unbiased, research-based information to farmers and agricultural personnel. Our goal is to communicate relevant information that will help professionals identify and manage field crop diseases.

Find more crop disease resources at CropProtectionNetwork.org.



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Technical Editor: Kevin Leigh Smith, Purdue Agricultural Sciences Education and Communication. Design: Purdue Agricultural Communication. Production and layout by Iowa State University Extension and Outreach Agriculture and Natural Resources.

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March 2020

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