

Fungicide Efficacy for Control of Soybean Foliar Diseases

The North Central Regional Committee on Soybean Diseases (NCERA-137) has developed the following information on foliar fungicide efficacy for control of major foliar soybean diseases in the United States. Efficacy ratings for each fungicide listed in the table were determined by field-testing the materials over multiple years and locations by the members of the committee. Efficacy ratings are based upon level of disease control achieved by product and are not necessarily reflective of yield increases obtained from product application. Efficacy depends upon proper application timing, rate, and application method to achieve optimum effectiveness of the fungicide as determined by labeled instructions and overall level of disease in the field at the time of application. Differences in efficacy among fungicide products were determined by direct comparisons among products in field tests and are based on a single application of the labeled rate as listed in the table, unless otherwise noted. For application timing and use considerations, please contact your local cooperative extension service. Table includes systemic fungicides available that have been tested over multiple years and locations. The table is not intended to be a list of all labeled products¹.



Target spot
Image: Tristan Mueller

Find Out More

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.

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CropProtectionNetwork.org



This publication was developed by members of NCERA-137. It was compiled by Kiersten Wise, University of Kentucky.

The information in this publication is only a guide, and the authors assume no liability for practices implemented based on this information. Reference to products in this publication is not intended to be an endorsement to the exclusion of others that may be similar. Individuals using such products assume responsibility for their use in accordance with current directions of the manufacturer.

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Frog-eye leaf spot
Image: Daren Mueller

Fungicide mode of action groups:

- Group 11 QoI Strobilurins
- Group 3 DMI Triazoles
- Group 1 MBC Thiophanates
- Group 7 SDHI Carboxamides
- Group 29 2,6-Dinitro-anilines

Efficacy categories:

- P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent;
- NL=Not Labeled for use against this disease; NR=Not Recommended;
- U=Unknown efficacy or insufficient data to rank product

Fungicide Efficacy for Control of Soybean Foliar Diseases Table (02/2023)

	Active ingredient (%)	Product/Trade name	Rate/A (fl oz)	Aerial web blight	Brown spot ²	Cercospora leaf blight ³	Frogeye leaf spot ⁴	Diaporthe (Pod and stem blight)	Soybean rust	Target spot	White mold ⁵
11	Azoxystrobin 22.9%	Quadris 2.08 SC, multiple generics	6.0 – 15.5	VG	P-G	P	P	U	G-VG	P-F	P
	Fluoxastrobin 40.3%	Aftershock 480 SC, Evito 480 SC	2.0 – 5.7	VG	P-G	P	P	U	U	U	NL
	Picoxystrobin	Aproach 2.08 SC	6.0 – 12.0	VG	P-G	P	P	U	G	U	G ⁸
	Pyraclostrobin 23.6%	Headline 2.09 EC/SC	6.0 – 12.0	VG	P-G	P	P	U	VG	P-F	NL
3	Cyproconazole 8.9%	Alto 100SL	2.75 – 5.5	U	VG	F	F	U	VG	U	NL
	Flutriafol 11.8%	Topguard 1.04 SC	7.0 – 14.0	U	VG	P-G	G-VG	U	VG-E	P	F
	Propiconazole 41.8%	Tilt 3.6 EC, multiple generics	4.0 – 6.0	P	G	NL	F	NL	VG	U	NL
	Prothioconazole 41.0%	Proline 480 SC ⁶	2.5 – 5.0	NL	NL	NL	G-VG	NL	VG	U	F
	Tetraconazole 20.5%	Domark 230 ME multiple generics	4.0 – 5.0	NL	VG	P-G	F-G	U	VG-E	P	F
1	Thiophanate-methyl	Topsin-M, multiple generics	10.0 – 20.0	U	U	F	G-VG	U	G	U	F
29	Fluazinam 40.0%	Omega 500 DF	0.75 – 1.0 pts	NL	NL	NL	NL	NL	NL	U	G
7	Boscalid 70%	Endura 0.7 DF	3.5 – 11.0	U	VG	U	P	NL	NL	U	VG
	Inpyrfluxam 31.25%	Excalia 2.84 SC	2.0	E	NL	NL	NL	NL	U	NL	NL
11	Azoxystrobin 25.3%	Topguard EQ 4.29 SC	5.0 – 7.0	VG	VG	U	G-VG	U	E	P	U
3	Flutriafol 18.63%										
11	Azoxystrobin 18.2%	Quadris Top 2.72 SC	8.0 – 14.0	U	G-VG	P-G	G-VG	F-G	VG	P	NL
3	Difenoconazole 11.4%										
11	Azoxystrobin 19.8%	Quadris Top SBX 3.76 SC	7.0 – 7.5	VG	G-VG	P-G	G-VG	F-G	VG	F-G	U
3	Difenoconazole 19.8%										
11	Azoxystrobin 7.0%	Quilt 1.66 SC, multiple generics	14.0 – 20.5	U	G	F	F	U	VG	P	NL
3	Propiconazole 11.7%										
11	Azoxystrobin 13.5%	Quilt Xcel 2.2 SE	10.5 – 21.0	E	G	F	F	U	VG	P	NL
3	Propiconazole 11.7%										
7	Benzovindiflupyr 2.9%	Trivapro	13.7 – 20.7	E	G-VG	P-G	F-G	G	VG-E	U	NL
11	Azoxystrobin 10.5%										
3	Propiconazole 11.9%										
3	Cyproconazole 7.17%	Aproach Prima 2.34 SC	5.0 – 6.8	VG	G	P-G	F-G	U	VG-E	F-G	NL
11	Picoxystrobin 17.94%										
7	Fluopyram 17.4%	Propulse 3.34 SC	6.0 – 10.2	NL	U	NL	U	U	U	NL	G
3	Prothioconazole 17.4%										
7	Bixafen 15.5%	Lucento 4.17 SC	3.0 – 5.5	VG	VG	F-G	G-VG	U	VG-E	F-G	U
3	Flutriafol 26.47%										
11	Fluoxastrobin 14.84%	Fortix SC, Preemptor SC	4.0 – 6.0	U	G-VG	P-G	G-VG	U	U	P	U
3	Flutriafol 19.3%										

Indicates product with mixed fungicide classes

¹Multiple fungicides are labeled for soybean rust only, powdery mildew, and Alternaria leaf spot, including tebuconazole (multiple products) and myclobutanil (Laredo). Contact fungicides such as chlorothalonil may also be labeled for use. ²In areas where QoI-fungicide resistant isolates of the brown spot pathogen are present, QoI fungicides may result in poor disease control. ³Cercospora leaf blight efficacy relies on accurate application timing, and standard R3 application timings may not provide adequate disease control. Fungicide efficacy may improve with earlier or later applications; however, efficacy has been inconsistent with some products. Fungicides with a solo or mixed QoI or MBC mode of action may not be effective in areas where QoI or MBC resistance has been detected in the fungal population that causes Cercospora leaf blight. ⁴In areas where QoI-fungicide resistant isolates of the frogeye leaf spot pathogen are not present, QoI fungicides may be more effective than indicated in this table. ⁵White mold efficacy is based on R1-R2 application timing, and lower efficacy is obtained at R3 or later application timings, or if disease symptoms are already present at the time of application. ⁶Proline has a supplemental label (2ee) for white mold in NY. ⁷Stratego YLD has a supplemental label (2ee) for white mold on soybean only in IL, IN, IA, MI, MN, NE, ND, OH, SD, WI. ⁸Rating is based on two applications of a 9 fl oz/A rate of Aproach at R1 and R3.



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- Group 11 QoI Strobilurins
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11	Trifloxystrobin 13.7%	Delaro 325 SC	8.0 – 11.0	VG	VG	U	G-VG	U	U	NL	F
3	Prothioconazole 16.0%			U	VG	U	U	U	U	NL	U
7	Fluopyram 10.9%	Delaro Complete 3.83 SC	8.0 – 11.0	VG	VG	F-G	G-VG	G	NL	F-G	U
11	Trifloxystrobin 13.1%			U	VG	U	U	U	U	U	NL
3	Prothioconazole 14.9%	Miravis Top 1.67 SC	13.7	VG	VG	F-G	G-VG	G	NL	F-G	U
7	Pydiflumetofen 6.9%			U	U	U	U	U	U	U	U
3	Difenoconazole 11.5%	Miravis Neo 2.5 SC	13.7	VG	VG	P-G	F-G	G	VG-E	F-G	P
7	Pydiflumetofen 7.0%			U	U	U	U	U	U	U	U
11	Azoxystrobin 9.3%	Priaxor 4.17 SC	4.0 – 8.0	VG	VG	P-G	F-G	G	VG-E	F-G	P
3	Propiconazole 11.6%			U	U	U	U	U	U	U	U
11	Pyraclostrobin 28.58%	Priaxor D 4.17 SC, 1.9 SC	4.0 each component	VG	VG	P-G	F-G	G	VG-E	F-G	P
7	Fluxapyroxad 14.33%			U	U	U	U	U	U	U	U
7	Fluxapyroxad 14.33%	Stratego YLD 4.18 SC ⁷	4.0 – 4.6	VG	G	F	F-G	U	VG	P	NL
11	Trifloxystrobin 32.3%			U	VG	F	F-G	U	U	U	U
3	Prothioconazole 10.8%	Affiance 1.5 SC	10.0 – 14.0	U	VG	F	F-G	U	U	U	U
11	Azoxystrobin 9.35%			U	VG	F	F-G	U	U	U	U
3	Tetraconazole 7.48%	Zolera FX 3.34 SC	4.4 – 6.8	U	U	U	F-G	U	U	U	U
11	Fluoxastrobin 17.76%			U	U	U	F-G	U	U	U	U
3	Tetraconazole 17.76%	Acropolis	20.0 – 23.0	NL	U	U	G-VG	U	VG-E	U	U
1	Thiophanate-methyl 21.3%			U	U	U	G-VG	U	VG-E	U	U
3	Tetraconazole 4.2%	Revytek	8.0 – 15.0	VG	VG	F-VG	G-VG	U	VG-E	F-VG	P
7	Fluxapyroxad 7.74%			U	U	U	G-VG	U	U	U	NL
11	Pyraclostrobin 15.49%	Veltyma	7.0-10.0	U	U	U	G-VG	U	U	U	NL
3	Mefentrifluconazole 11.61%			U	U	U	G-VG	U	U	U	U
11	Pyraclostrobin 17.56%	Regev HBX	4.0-8.5	U	U	U	G-VG	U	U	U	U
3	Mefentrifluconazole 17.56%			U	U	U	G-VG	U	U	U	U
BM-01	Tea Tree Oil 20.4%	Regev HBX	4.0-8.5	U	U	U	G-VG	U	U	U	U
3	Difenconazole 20.4%			U	U	U	G-VG	U	U	U	U

¹Multiple fungicides are labeled for soybean rust only, powdery mildew, and Alternaria leaf spot, including tebuconazole (multiple products) and myclobutanil (Laredo). Contact fungicides such as chlorothalonil may also be labeled for use. ²In areas where QoI-fungicide resistant isolates of the brown spot pathogen are present, QoI fungicides may result in poor disease control. ³Cercospora leaf blight efficacy relies on accurate application timing, and standard R3 application timings may not provide adequate disease control. Fungicide efficacy may improve with earlier or later applications; however, efficacy has been inconsistent with some products. Fungicides with a solo or mixed QoI or MBC mode of action may not be effective in areas where QoI or MBC resistance has been detected in the fungal population that causes Cercospora leaf blight. ⁴In areas where QoI-fungicide resistant isolates of the frogeye leaf spot pathogen are not present, QoI fungicides may be more effective than indicated in this table. ⁵White mold efficacy is based on R1-R2 application timing, and lower efficacy is obtained at R3 or later application timings, or if disease symptoms are already present at the time of application. ⁶Proline has a supplemental label (2ee) for white mold in NY. ⁷Stratego YLD has a supplemental label (2ee) for white mold on soybean only in IL, IN, IA, MI, MN, NE, ND, OH, SD, WI. ⁸Rating is based on two applications of a 9 fl oz/A rate of Approach at R1 and R3.

Many products have specific use restrictions about the amount of active ingredient that can be applied within a period of time or the amount of sequential applications that can occur. Please read and follow all specific use restrictions prior to fungicide use and follow all harvest restrictions provided on the label. This information is provided only as a guide. It is the responsibility of the pesticide applicator by law to read and follow all current label directions. Reference to products in this publication is not intended to be an endorsement to the exclusion of others that may be similar. Persons using such products assume responsibility for their use in accordance with current directions of the manufacturer. Members or participants in the NCERA-137 group assume no liability resulting from the use of these products.



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