

CORN (FIELD) – FOLIAR DISEASES

Travis Faske and Terry Spurlock

NOTE: Fungicides should not be applied prior to 100% tassel and should not be applied later than 14 days after brown silk. We do not recommend the use of fungicides on field corn in Arkansas except under extraordinary circumstances. Preventative use will likely not result in an economic return on current hybrids grown in the state in most years. In rare cases where they might be needed – such as years favorable to southern rust, late-planted corn, or corn following corn in the same field – the following foliar fungicides are registered for use in Arkansas.

Disease	Fungicide	Active Ingredient	FRAC Code	Rate/Acre	Days to Harvest	Comments
Southern rust and northern corn leaf blight	Topguard 1.04 SC	flutriafol	3	7 - 14 fl oz	7	
	Tilt, Propimax 3.6 EC	propiconazole	3	4 fl oz	30	
	Proline 480 SC	prothioconazole	3	5.7 fl oz	14	
	tebuconazole (multiple generics 3.6 F)	tebuconazole	3	4 - 6 fl oz	36	
	Domark 230 ME	tetraconazole	3	4 - 6 fl oz	R3	
	Andiamo 230 ME	tetraconazole	3	4 - 6 fl oz	R3	
	Quadris 2.08 SC (multiple generics)	azoxystrobin	11	6 - 15.5 fl oz	7	
	Evito 480 SC, Aftershock 480 SC	fluoxastrobin	11	2 - 5.7 fl oz	30	
	Approach 2.08 SC	picoxystrobin	11	3 - 12 fl oz	7	
	Headline 2.09 SC	pyraclostrobin	11	6 - 12 fl oz	7	Rust and gray leaf spot: 6 - 9 fl oz; corn leaf blights: 9 - 12 fl oz
	Prosaro 421 SC	prothioconazole + tebuconazole	3 + 3	6.5 fl oz	36	
	Luccento 4.17 SC	flutriafol + bixafen	3 + 7	3 - 5.5 fl oz	30	In university trials 5 oz/A was the most effective rate.
	Topguard EQ 4.29 SC	azoxystrobin + flutriafol	11 + 3	5 - 7 fl oz	7	
	Quilt Xcel 2.2 SE, Cover XL 2.2 SE	azoxystrobin + propiconazole	11 + 3	10.5 - 14 fl oz	30	
	Helmstar Plus 3.0 SC	azoxystrobin + tebuconazole	11 + 3	7.2 - 10.8 fl oz	36	
	Affiance 1.5 SC	azoxystrobin + tetraconazole	11 + 3	10 - 17 fl oz	7	
	Brixen 1.85 SC	azoxystrobin + tetraconazole	11 + 3	13 - 19 fl oz	R3	
	Fortix 3.22 SC, Preemptor 3.22 SC	fluoxastrobin + flutriafol	11 + 3	4 - 6 fl oz	30	
Zolera FX 3.34 SC	fluoxastrobin + tetraconazole	11 + 3	4.4 - 6.8 fl oz	30		

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CORN (FIELD) – FOLIAR DISEASES – continued

Disease	Fungicide	Active Ingredient	FRAC Code	Rate/Acre	Days to Harvest	Comments
Southern rust <i>(cont.)</i> and northern corn leaf blight	Aproach Prima 2.34 SC	picoxystrobin + cyproconazole	11 + 3	3.4 - 6.8 fl oz	21	In university trials 6.8 oz/A was the most effective rate.
	Stratego 2.08 SC	trifloxystrobin + propiconazole	11 + 3	12 fl oz	30	
	Stratego YLD 4.18 SC	trifloxystrobin + prothioconazole	11 + 3	4 - 5 fl oz	14	
	Headline AMP 1.68 SC	pyraclostrobin + metconazole	11 + 3	10 - 14.4 fl oz	20	
	Priaxor 4.17 SC	pyraclostrobin + fluxapyroxad	11 + 7	4 - 8 fl oz	21	Rusts: 6 - 8 fl oz; corn leaf blights and gray leaf spot: 4 fl oz.
	Trivapro 2.21 SE	benzovindiflupyr + azoxystrobin + propiconazole	7 + 11 + 3	13.7 fl oz	30	

Management of Corn Diseases – Fungicide Efficacy for Control of Corn Diseases (*January 2019*)

The Corn Disease Working Group (CDWG) has developed the following information. Efficacy ratings for each fungicide listed in the table were determined by field testing the materials over multiple years and locations by 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. **The table includes systemic fungicides available that have been tested over multiple years and locations. This table is not intended to be a list of all labeled products¹.** Efficacy categories: NR = Not Recommended; P = Poor; F = Fair; G = Good; VG = Very Good; E = Excellent; NL = Not Labeled for use against this disease; U = Unknown efficacy or insufficient data to rank product efficacy.

Class	Fungicide(s)			Anthracnose Leaf Blight	Eyespot	Gray Leaf Spot	Northern Leaf Blight	Southern Rust ^A	Harvest Restriction ²
	Active Ingredient (%)	Product/Trade Name	Rate/A (fl oz)						
QoI Strobilurins Group 11	Azoxystrobin 22.9%	Quadris 2.08 SC Multiple Generics	6 - 15.5	VG	VG	E	G	G	7 days
	Pyraclostrobin 23.6%	Headline 2.09 EC/SC	6 - 12	VG	E	E	VG	E	7 days
	Picoxystrobin	Aproach 2.08 SC	3 - 12	VG	VG	F-VG	VG	U	7 days
DMI Triazololes Group 3	Propiconazole 41.8%	Tilt 3.6 EC Multiple Generics	2 - 4	NL	E	G	G	F-G	30 days
	Prothioconazole 41.0%	Proline 480 SC	5.7	U	E	U	VG	G	14 days
	Tebuconazole 38.7%	Folicur 3.6 F Multiple Generics	4 - 6	NL	NL	U	VG	F-G	36 days
	Tetraconazole 20.5%	Domark 230 ME Multiple Generics	4 - 6	U	U	E	VG	G	R3 (milk)

Management of Corn Diseases – Fungicide Efficacy for Control of Corn Diseases (January 2018)
(continued)

Class	Fungicide(s)			Anthracnose Leaf Blight	Eyespot	Gray Leaf Spot	Northern Leaf Blight	Southern Rust ^A	Harvest Restriction ²
	Active Ingredient (%)	Product/Trade Name	Rate/A (fl oz)						
Mixed Modes of Action Group 11 + 3 or 7	Azoxystrobin 13.5% Propiconazole 11.7%	Quilt Xcel 2.2 SE Aframe Plus 2.2 SE	10.5 - 14	VG	VG-E	E	VG	VG	30 days
	Benzovindiflupyr 10.27% Azoxystrobin 13.5% Propiconazole 11.7%	Trivapro 2.21 SE	13.7	U	U	E	VG	E	30 days
	Cyproconazole 7.17% Picoxystrobin 17.94%	Aproach Prima 2.34 SC	3.4 - 6.8	U	U	E	VG	G	30 days
	Flutriafol 19.3% Fluoxastrobin 14.84%	Fortix 3.22 SC Preemptor 3.22 SC	4 - 6	U	U	E	VG	G-VG	R4 (dough)
	Pyraclostrobin 13.6% Metconazole 5.1%	Headline AMP 1.68 SC	10 - 14.4	U	E	E	VG	G	20 days
	Pyraclostrobin 28.58% Fluxapyroxad 14.33%	Priaxor 4.17 SC	4 - 8	U	U	E	VG-E	G	21 days
	Trifloxystrobin 32.3% Prothioconazole 10.8%	Stratego YLD 4.18 SC	4 - 5	VG	E	E	VG	G	14 days
	Tetraconazole 7.48% Azoxystrobin 9.35%	Affiance 1.5 SC	10 - 14	U	U	U	G-VG	G	7 days

¹ Additional fungicides are labeled for disease on corn, including contact fungicides such as chlorothalonil. Certain fungicides may be available for diseases not listed in the table, including Gibberella and Fusarium ear rot. Application of Proline 480 SC for use on ear rots requires a FIFRA Section 2(ee) and is only approved for use in Illinois, Indiana, Iowa, Louisiana, Maryland, Michigan, Mississippi, North Dakota, Ohio, Pennsylvania and Virginia.

² Harvest restrictions are listed for field corn harvested for grain. Restrictions may vary for other types of corn (sweet, seed or popcorn, etc.) and corn for other uses such as forage or fodder.

^A Though there is no threshold for economical use of a fungicide to control southern rust, consider yield potential, hybrid susceptibility, growth stage and weather conditions when southern rust threatens. Generally, fungicides with a sole strobilurin mode of action are most effective when applied before southern rust is observed, and fungicides with a sole or mixed triazole mode of action are effective when applied before or after rust is found in a field. A fungicide application at tasseling or silking when southern rust has been observed on a susceptible hybrid with good yield potential may be the most beneficial at suppressing disease development; however, additional application may be needed for season-long crop protection. Field corn within two weeks from physiological maturity (i.e., black layer) is very unlikely to benefit from a fungicide application.

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. 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 CDWG assume no liability resulting from the use of these products.

CORN (FIELD) – AFLATOXIN

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Contamination	Product	Rate/A	Comment
Aflatoxin	Afla-Guard (atoxigenic strain of <i>Aspergillus flavus</i>)	10 - 20 lb	To suppress aflatoxin contamination in low to moderate risk fields, apply at V10 to VT.

CORN (FIELD) – NEMATODES

Travis Faske

Nematode ¹	Nematicide ²	Formulation	Active Ingredient	FRAC Code	Rate/Acre	Comments
Root-knot, Lesion and Stubby-root Nematodes (+ early season insects)	Counter 20 G Lock'n Load	20% granules	terbufos	---	6.5 lb	Apply in seed furrow at planting according to the label. Do not exceed 6.5 lb/acre total.
	Telone II 9.85 L ³	Liquid	1,3-dichloropropene	---	3 - 6 gal	Inject 12 inches below planting depth and seal immediately with appropriate bedding equipment. Wait 7 - 14 days before planting.
	Avicta Complete Corn 500/1250 with Vibrance ⁴	Seed treatment	abamectin + thiamethoxam + azoxystrobin + mefenoxam + fludioxonil + sedaxane	---	See label.	Available through commercial seed companies and dealer distributors.
	Poncho/Votivo 5.01 FS ⁴	Seed treatment	clothianidin + <i>Bacillus firmus</i> I-1582	---	---	Available through commercial seed companies and dealer distributors.

¹ Certain other nematodes are considered economic problems on corn in other parts of the U.S. These include the root-knot lesion, stubby-root, ring, dagger, spiral, stunt and sting nematodes. There is no data from Arkansas to indicate the severity of these nematodes under our conditions, but at high populations a nematicide might be justified. Fields with long-term corn history that have lower than expected yields or yields that decline over time should be tested for nematodes by submitting a soil sample to the Nematode Diagnostic Laboratory located at the Southwest Research and Extension Center near Hope. Contact your local county Extension agent for guidelines on when and how to collect the sample. **A small fee is charged for this service.**

² **RESTRICTED USE PESTICIDES** – These are dangerous pesticides – use caution in handling and read and follow current label directions. There has been no recent research in Arkansas that demonstrates any economic return for the use of these products on corn. These products **can cause crop injury if certain herbicides are applied afterwards – carefully read pesticide interaction information on the label before applying these or any pesticides.**

³ Use where nematode pressure is severe.

⁴ Use where nematode pressure is low to moderate.