

## 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	
	Lucento 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	10.5 fl oz has done well in university trials.
	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	
Approach 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.	
Veltyma 3.34 SC	pyraclostrobin + mefentrifluconazole	11 + 3	7 - 10 fl oz	21		

(continued)

**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	Absolute Maxx	Trifloxystrobin + tebuconazole	11 + 3	5 - 6 fl oz	36	6 fl oz has been used in university trials.
	Dexter Max 0.75 DG	mancozeb + azoxystrobin	11 + 3	1.6 lbs	40	
	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	
	Delaro 325 SC	trifloxystrobin + prothioconazole	11 + 3	8-12 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.
	Delaro Complete 3.83 SC	trifloxystrobin + prothioconazole, fluopyram	11 + 3 + 7	8 - 12 fl oz	35	
	Revytek 3.33 SC	fluxapyroxad + pyraclostrobin + mefentrifluconazole	7 + 11 + 3	8 - 15 fl oz	21	
	Adastrio 4.0 SC	fluindapyr + azoxystrobin + flutriafol	7 + 11 + 3	7 - 9 fl oz	30	
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 (May 2024)**

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 products<sup>1</sup>.** 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.

**NOTE: This guideline was a composite of several field trials from multiple states across the U.S. corn belt and may not always reflect fungicide efficacy observed in Arkansas.**

Fungicide(s)				Anthracnose Leaf Blight	Eyespot	Gray Leaf Spot	Northern Leaf Blight	Southern Rust <sup>A</sup>	Harvest Restriction <sup>2</sup>
Class	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	VG	7 days
	Pyraclostrobin 23.6%	Headline 2.09 EC/SC	6 - 12	VG	E	E	VG	VG	7 days
	Picoxystrobin	Approach 2.08 SC	3 - 12	VG	VG	F-VG	VG	G	7 days
DMI Triazoles Group 3	Propiconazole 41.8%	Tilt 3.6 EC Multiple Generics	2 - 4	NL	E	G	G	F	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	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 (May 2024) (continued)**

Fungicide(s)				Anthracnose Leaf Blight	Eyespot	Gray Leaf Spot	Northern Leaf Blight	Southern Rust <sup>A</sup>	Harvest Restriction <sup>2</sup>
Class	Active Ingredient (%)	Product/Trade Name	Rate/A (fl oz)						
Mixed Modes of Action	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)
	Flutriafol 26.47% Bixafen 15.55%	Lucento 4.17 SC	3 - 5.5	U	U	VG-E	VG	G	R4
	Prothioconazole 16.0% Trifloxystrobin 13.7%	Delaro 325 SC	8 - 12	VG	U	E	VG	G-VG	14 days
	Trifloxystrobin 13.1% + prothioconazole 13.9%, fluopyram 10.9%	Delaro Complete 3.83 SC	8 - 12	U	U	E	VG	G-VG	35 days
	Pydiflumetofen 7.0% Azoxystrobin 9.3% Propiconazole 11.6%	Miravis Neo 2.5 SE	13.7	U	U	E	VG-E	G	30 days
	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
	Flutriafol 18.63% Azoxystrobin 25.30%	Topguard EQ	5 - 7	U	U	VG	G	VG	45 days
	Mefentrifluconazole 17.56% Pyraclostrobin 17.56%	Veltyma 3.34 SC	7 - 10	U	U	VG-E	VG-E	G-VG	21 days
	Mefentrifluconazole 11.61% Pyraclostrobin 15.49% Fluxapyroxad 7.74%	Revytek 3.33 SC	8 - 15	U	U	VG-E	VG-E	G-VG	21 days
Fluindapyr 10.5% Azoxystrobin 15.7% Flutriafol 15.7%	Adastrio 4.0 SC	7 - 9	U	U	U	U	VG	30 days	

<sup>1</sup> Fungicide application timing is extremely important and needs to be made near the onset of the tar spot symptoms. Efficacy ratings based on limited site locations from 2018 and 2019.

<sup>2</sup> 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.

<sup>3</sup> A 2ee label is available for several fungicides for control of tar spot, however efficacy data are limited. Check 2ee labels carefully, as not all products have 2ee labels in all states.

*This information is provided only as a guide. It is the applicator's legal responsibility to read and follow all current label directions. Reference in this publication to any specific commercial product is for general information only and does not constitute an endorsement or recommendation by the CDWG. Individuals 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

Travis Faske

Contamination	Product	Rate/A	Comment
Aflatoxin	Afla-Guard (atoxicogenic 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 <sup>1</sup>	Nematicide <sup>2</sup>	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 <sup>3</sup>	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.
	Propulse 3.34 SC <sup>4</sup>	Liquid, in-furrow	fluopyram + prothioconazole	7 + 3	8 fl oz/A	Do not tank mix with fertilizers or micronutrients. Conduct a "jar-test" before using with any tank mix.
	Velum 4.16 SC <sup>4</sup>	Liquid, in-furrow	fluopyram	7	3 to 5 fl oz/A	
	Avicta Complete Corn 500/1250 with Vibrance <sup>4</sup>	Seed treatment	abamectin + thiamethoxam + azoxystrobin + mefenoxam + fludioxonil + sedaxane	--- --- 11 4 12 7	See label.	Available through commercial seed companies and dealer distributors.
	Poncho/Votivo 5.01 FS <sup>4</sup>	Seed treatment	clothianidin + <i>Bacillus firmus</i> I-1582	--- ---		Available through commercial seed companies and dealer distributors.
	BioST Nematicide 100 <sup>4</sup>	Seed treatment	<i>Burkholderia</i> spp A396	---	7 fl oz/cwt	
	Trunemco corn/soy <sup>4</sup>	Seed treatment	<i>Bacillus amylolique-faciens</i> strain MBI 600 + cis-Jasmone		0.30 fl oz/cwt	0.057 mg ai/seed
	Luminalza <sup>4</sup>	Seed treatment	<i>Bacillus amylolique-faciens</i> PTA-4838	---		Available through Commercial seed companies and seed distributors. Corn nematode suppression has been inconsistent in university trials.

<sup>1</sup>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.**

<sup>2</sup>**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.

<sup>3</sup>Use where nematode pressure is low to moderate.

<sup>4</sup>Use where nematode pressure is severe.

## CORN (FIELD) – SEEDLING DISEASES

Terry Spurlock

Disease	Product	Active Ingredient	FRAC Code	Rate/cwt	Comments
<b>Commercial and Distributor-Applied Seed Treatments</b>					
Seedling diseases caused by Pythium	Dyna-Shield Metalaxyl 2.54 ST	metalaxyl	4	0.75 - 1.07 (Pythium) 3.0 (Downy mildew)	28.35% ai
	StartUpMETXL 4ST	metalaxyl	4	0.75 - 1.5	28.98% ai
	Acceleron DC-309, Allegiance	metalaxyl	4	0.75	28.35% ai, Use 0.10 - 0.375 fl oz /cwt in combination with broad spectrum fungicides.
	Acquire 2.65 ST	metalaxyl	4	0.75	29.99% ai
	Precinct 4 ST	mefenoxam	4	0.23 - 0.47(Pythium) 1.61(Downy mildew)	
	Anchor 3L	mefenoxam	4	0.0425 - 0.085	For a broader spectrum of seedling disease protection of corn, combine this product with azoxystrobin, or fludioxonil.
	Vayantis 3.3 FC	picarbutrazox	U17	0.039 - 0.195	
	Acceleron D-310	ethaboxam	22	0.2 - 0.3	To deliver 5 g ai/100 kg seed, apply 0.1 fl oz per 80,000 seed (equals 0 .0141 mg ai/ seed) based on 1600 seed/lb count.
	Dynasty, Saxony 100 FS	azoxystrobin	11	0.153	
	Seedling diseases caused by Rhizoctonia and other fungi	Acceleron DX-709	trifloxystrobin	11	0.32 - 0.64
Stamina 1.67 FC		pyraclostrobin	11	0.005 - 0.01	18.4% ai
Acceleron D-281		fluoxastrobin	11	0.16 - 0.32	Do not apply more than 0.36 lb ai of fluoxastrobin per acre per year including seed treatment, foliar, in-furrow, or banded applications.
Vitavax – 34 ST		carboxin	7	2 - 4	Do not graze or feed livestock on treated areas for 6 weeks after planting.
Trebuset 4.17 FC		pydiflumetofen	7	0.3 - 0.926	Do not exceed 0.224 lb ai/A/year of pydiflumetofen-containing products through any combination of seed and foliar applications.
Vibrance 4.3 FC		sedaxane	7	0.0063 - 0.0125 (Rhizoctonia) 0.05 - 0.10 (Head Smut)	
Acceleron D-805, EverGol Prime 2 ST		penflufen	7	0.16 - 0.64	
Acceleron D-342		prothioconazole	3	0.08 - 0.8	Do not use treated seed for food, feed, or oil production.

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**CORN (FIELD) – SEEDLING DISEASES – continued**

<b>Disease</b>	<b>Product</b>	<b>Active Ingredient</b>	<b>FRAC Code</b>	<b>Rate/cwt</b>	<b>Comments</b>
<b>Commercial and Distributor-Applied Seed Treatments</b>					
Seedling diseases caused by Rhizoctonia and other fungi	Acceleron DC-509, Lumiflex, Rancona 3.8 FS	ipconazole	3	0.44 - 0.085	
	Dyna-Shield Tibet, Sativa 309 FS	tebuconazole	3	0.075-0.1 (Fusarium) 0.37-0.74 (Head smut)	
	Maxim 4FS, Spirato 480 FS and others	fludioxonil	12	0.08 - 0.16	
Seedling diseases caused by Rhizoctonia, Pythium, and other fungi	Vibrance Cinco 4.25 SC	azoxystrobin + mefenoxam + fludioxonil + sedaxane + thiabendazole	11 + 4 + 12 + 7 + 1	1.2	
	EverGol Energy 1.47 FS	prothioconazole + penflufen + metalaxyl	3 + 7 + 4	0.5 - 2.0	
	Lumiscend Pro 1.05 ST	ethaboxam + inpyrfluxam + metalaxyl	22 + 7 + 3	0.9	
	Maxim Quattro 3.18 FC	fludioxonil + mefenoxam + azoxystrobin + thiabendazole	12 + 4 + 11 + 1	0.39 - 0.53	
	Metlock CT 0.58 ST	metalaxyl, metconazole	3 + 4	1.0 - 1.5	
	Maxim XL 2.7 FC	fludioxonil, mefenoxam	12 + 4	0.167 - 0.334	Use with Dynasty and Apron XL when disease pressure from Pythium is high.
	Trilex 2000 1.15 FC	trifloxystrobin + metalaxyl	11 + 4	0.5	
<b>Liquid Products Applied At-Plant</b>					
Seedling and early season diseases caused by fungi	Quadris 2.08 SC	azoxystrobin	11	0.4 - 2.3	Do not apply more than 15 fl oz/acre. Jar test compatibility with fertilizer prior to application.
	Headline 2.09 SC	pyraclostrobin	11	0.1 - 0.8	Jar test compatibility with fertilizer prior to application. DO NOT apply more than 12 fl oz per acre of Headline.
	Xyway LFR 1.92 SC	flutriafol	3	0.44 - 0.87	Do not apply within the seed furrow at planting. SEE LABEL.
	Ethos	Bifenthrin, Bacillus amyloliquefaciens strain D747**	BM 02	0.19 - 0.98	Suppression only. Tank mix with other fungicides when disease pressure is moderate to severe.
	Zironar	Bacillus licheniformis strain FMCH001 + Bacillus subtilis strain FMCH002**		6 - 12	Apply in minimum 3 gallons water per acre.