WHEAT – SEED TREATMENTS

Terry Spurlock

Disease	Fungicide	Active Ingredient	FRAC Code*	Rate/cwt Seed	Comments
Loose Smut, Stagonospora Blotch (glume blotch), and other seedling diseases	Vibrance 4.3 FS	sedaxane	7	1.16 – 2.32 g ai	Also labeled for oats and triticale.
	Maxim 4 FS 4 FC	fludioxonil	12	1.16 – 2.32 g ai	See label.
	Mertect 340 F 4.1 SC	thiabendazole	1	0.17 oz	See label.
	Raxil MD 11.6 S	tebuconazole + metalaxyl + prothioconazole	3 + 4 + 3	5 – 7.5 fl oz	On-farm or commercial seed treaters. Dilute 1:1 with water before application to seed. Already contains dye. Do not graze for 38 days after seeding. Also controls loose smut of oats.
	Dividend Extreme 0.96 FC	difenoconazole + mefenoxam	3 + 4	2 - 4 fl oz	Also labeled for triticale.
	Rancona Crest 1.37 FS	ipconazole + metalaxyl + imidacloprid	3 + 4	5 fl oz	Do not graze or feed livestock on treated areas for 45 days after planting.
	Rancona V RTU FS 1.26 FS	ipconazole + carboxin + metalaxyl	3 + 7 + 4	4.6 fl oz	Do not graze or feed livestock on treated areas for 42 days after planting.
	Vibrance Extreme 0.81 FC	difenoconazole + sedaxane + mefenoxam	3 + 7 + 4	2.8 - 5.6 fl oz	Also labeled for oats and triticale.
	Trebuset	pydiflumetofen	7	0.31 fl oz/100 lb seed	For control of seed rot and seedling blight cause by Fusarium spp., early season tan spot and early season powdery mildew.
	CruiserMaxx Vibrance Cereals 0.72 FS	difenoconazole + sedaxane + mefenoxam + thiamethoxam	3 + 7 + 4 + N/A	5 oz	Multiple seed and seedling diseases (see label). Also labeled for oats and triticale. Contains Cruiser 5 FS at 0.25 oz/cwt. Add additional 0.75 oz/cwt Cruiser 5 FS for aphid control and BYDV suppression.
	EverGol Energy 1.47 FS	prothioconazole + penflufen + metalaxyl	3 + 7 + 4	1 oz	Commercial seed treatment only.
	Gaucho XT 1.29 F	tebuconazole + metalaxyl + imidacloprid	3 + 4 + N/A	3.4 fl oz	See label.
	Vayantis 3.3 FC	picarbutrazox	U17	0.05 – 0.10 fl. oz/cwt	For control of diseases caused by Pythium spp. only.

***FRAC Code** – Fungicides with the same FRAC Code have the same mode of action. See http://www.frac.info/ for an explanation of the FRAC Codes. Rotation of fungicides with different FRAC Codes could minimize the development of fungicide resistant strains.

NOTE: Wheat seed producers in Arkansas should always plant seed treated with one of the listed products to prevent a buildup of loose smut and Stagonospora glume blotch in the seed supply. Growers who plant saved seed should have it treated with one of the above, especially if the seed came from a field with these diseases or if either of the diseases was at epidemic levels in nearby fields during the spring.

WHEAT – FOLIAR FUNGICIDES

Terry Spurlock

Disease	Fungicide	Active Ingredient	FRAC Code*	Rate/Acre	Comments
Leaf Rust Stagonospora (Glume) Blotch[1] Septoria Leaf Blotch Powdery Mildew Stripe Rust[2]	Alto100 SL	cyproconazole	3	3 - 5.5 fl oz	See label.
	Caramba 90 EC	metconazole	3	10 - 14 fl oz	No more than 2 applications/season. See label.
	Bumper 41.8 EC, Propimax 3.6 EC, Tilt 1.04 SC	propiconazole	3	4 fl oz	Do not apply after Feekes GS 10.5 (full heading). Do not apply more than 8 fl oz per acre per crop per season.
	tebuconazole (various trade names 3.6 F)	tebuconazole	3	4 fl oz	Maximum of 4 fl oz/acre per year.
	Quadris 2.08 F**	azoxystrobin	11	6 fl oz	Do not apply after Feekes GS 10.54 (flowering over). Apply prior to disease development.
	Aftershock 480 SC	fluoxastrobin	11	2.5 - 4 fl oz	10 - 14 day intervals. See label.
	Evito 480 SC	fluoxastrobin	11	2.5 - 4 fl oz	10 - 14 day intervals. See label.
	Headline 2.09 SC*	pyraclostrobin	11	6 - 9 fl oz	Do not apply after Feekes GS 10.5. See label. Headline is also labeled for control of black point of wheat.
	Quilt Xcel 2.2 SE	azoxystrobin + propiconazole	11 + 3	10.5 - 14 fl oz	Do not apply after Feekes GS 10.54. Tank mixes with certain herbicides and fertilizers may result in crop injury – see label for all restrictions.
	Delaro 325 SC	trifloxystrobin + prothioconazole	11 + 3	8 fl oz	35 day PHI. Do not apply after Feekes 10.5.
	Aproach Prima 2.34 SC	picoxystrobin + cyproconazole	11 + 3	3.4 - 6.8 fl oz	Do not apply more than 6.8 fl oz per acre per crop. Minimum time to harvest is 45 days for grain.
	Stratego 2.08 SC	trifloxystrobin + propiconazole	11 + 3	10 fl oz	Do not apply after Feekes GS 10.5.
	Stratego YLD 4.18 SC	trifloxystrobin + prothioconazole	11 + 3	4 fl oz	See label for restrictions.
	Absolute Maxx 5.36 SC	trifloxystrobin + tebuconazole	11 + 3	5 fl oz	Do not apply more than 5 fl oz per season. Do not use adjuvants.
	Topguard EQ 4.29 SC	azoxystrobin + flutriafol	11 + 3	4 - 7 fl oz	Do not apply after Feekes 10.5.4.
	Priaxor 4.17 SC	pyraclostrobin + fluxapyroxad	11 + 7	4 - 8 fl oz	Do not apply after Feekes GS 10.5. Apply no more than 16 oz/acre per year.

(continued)

WHEAT – FOLIAR FUNGICIDES – continued

Disease	Fungicide	Active Ingredient	FRAC Code*	Rate/Acre	Comments
Leaf Rust *(cont.)* (Stagonospora (Glume) Blotch[1] Septoria Leaf Blotch Powdery Mildew Stripe Rust[2]	Prosaro 421 SC	prothioconazole + tebuconazole	3 + 3	6.5 - 8.2 fl oz	Apply from early flowering to 3 days after flowering for optimal head blight suppression. 30 day PHI.
	Prosaro Pro 400 SC	prothioconazole + tebuconazole + fluopyram	3 + 3 + 7	10.3 – 13.6 fl oz	Optimum time to apply is Feekes 10.5.1. 30 day PHI.
	Trivapro 1.75 EC	benzovindiflupyr + azoxystrobin +propiconazole	7 + 3 + 11	9.4 - 13.7 fl oz	Not after Feekes GS 10.5.4. Apply no more than 27.4 oz/acre per year.
	Miravis Ace 2.3 SE	pydiflumetofen + propiconazole	7 + 3	13.7 fl oz	
	Lucento 4.17 SC	bixafen + flutriafol	7 + 3	3 - 5.5 fl oz	
Fusarium Head Blight (Scab) (suppression only) and control of other diseases listed above	Caramba 90 EC	metconazole	3	13.5 - 17 fl oz	Apply at early flowering for optimal head blight suppression. See label.
	Sphaerex 2.5 EC	metconazole + prothioconazole	3+3	7.3 fl oz	30 day PHI
	tebuconazole (various trade names 3.6 F)	tebuconazole	3	4 fl oz	Maximum of 4 fl oz/acre per year. Least effective option for Scab.
	Prosaro 421 SC	prothioconazole + tebuconazole	3 + 3	6.5 - 8.2 fl oz	Apply from early flowering to 3 days after flowering for optimal head blight suppression. 30 day PHI.
	Miravis Ace 2.3 SE	pydiflumetofen + propiconazole	7 + 3	13.7 fl oz	Apply between Feekes 10.3 and Feekes 10.5.4 for control of late season rusts. PHI for forage and hay is 7 days. Do not apply after Feekes 10.5.4.

*FRAC Code – Fungicides with the same FRAC Code have the same mode of action. See http://www.frac.info/ for an explanation of the FRAC Codes. Rotation of fungicides with different FRAC Codes could minimize the development of fungicide resistant strains.
**Only effective as a preventative treatment for stripe rust.
[1]Stagonospora (glume) blotch is more effectively controlled by seed treatment fungicides because it is primarily seedborne under Arkansas conditions and foliar symptoms are difficult to scout for in the spring. See Wheat Seed Treatment Table for details.
[2]All fields with active hot spots of stripe rust should be sprayed immediately if found prior to Feekes GS 10.5.

WHEAT DISEASE THRESHOLDS

Terry Spurlock

The following threshold system is a general guide for whether or not there is adequate disease pressure to justify fungicide use. The relative susceptibility of the variety, favorable weather conditions during the spring and location in Arkansas should also be considered. For current row crop information, sign up for the Arkansas Row Crop Updates at www.arkansas-crops.com/ or visit your local Cooperative Extension Service office.

Feekes Growth Stage	Disease	Indicator Leaf	Treatment Threshold
GS 8	Leaf Rust	Flag-3 and above	1 pustule/leaf
	Septoria tritici leaf blotch	Flag-3 and above	25% of leaves infected
	Powdery Mildew	Flag-2 and above	5 pustules/leaf
	Stagonospora blotch	Flag-2 and above	10% of leaves infected
	Tan Spot	Flag-2 and above	25% of leaves infected
	Stripe Rust	Any leaf	1 pustule/20 leaves
GS 9 - GS 10.5	Leaf Rust	Flag-2 and above	1 pustule/leaf
	Septoria tritici leaf blotch	Flag-2 and above	25% of leaves infected
	Powdery Mildew	Flag-1 and above	5 pustules/leaf
	Stagonospora blotch	Flag-2 and above	10% of leaves infected
	Tan Spot	Flag-2 and above	25% of leaves infected
	Stripe Rust	Any leaf	1 pustule/20 leaves

Management of Small Grain Diseases – Fungicide Efficacy for Control of Wheat Disease *(Revised March 2024)*

The North Central Regional Committee on Management of Small Grain Diseases (NCERA-184) has developed the following information on fungicide efficacy for control of certain foliar diseases of wheat for use by the grain production industry in the U.S. 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 is based on proper application timing 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. Table includes most widely marketed products, and is not intended to be a list of all labeled products.

Efficacy of fungicides for wheat disease control based on appropriate application timing

Fungicide(s)				Powdery Mildew	Stagonospora nodorum blotch	Septoria tritici blotch	Tan Spot	Stripe Rust	Leaf Rust	Stem Rust	Head Scab[4]	Harvest Restriction
Class	Active Ingredient	Product	Rate/A (fl oz)									
Strobilurin	**Picoxystrobin 22.5%**	**Aproach SC**	**6.0 - 12.0**	G[1]	VG	VG[2]	VG	E[3]	VG	VG	NL	Feekes 10.5
	Pyraclostrobin 23.6%	**Headline SC**	**6.0 - 9.0**	G	VG	VG[2]	E	E[3]	E	G	NL	Feekes 10.5
	Azoxystrobin 22.9%	**Quadris 2.08 SC** *Multiple generics*[6]	**4.0 - 12.0**[5]	G	VG	VG	E	E	E	VG	NL	Feekes 10.5.4
Triazole	**Tebuconazole 38.7%**	**Folicur 3.6 F** *Multiple generics*[6]	**4.0**	NL	NL	NL	NL	E	E	E	F	30 days
	Prothioconazole 41%	**Proline 480 SC**	**5.0 - 5.7**	---	VG	VG	VG	VG	VG	VG	G	30 days
	Prothioconazole 19% **Tebuconazole 19%**	**Prosaro 421 SC**	**6.5 - 8.2**	G	VG	VG	VG	E	E	E	G	30 days
	Propiconazole 41.8%	**Tilt 3.6 EC** *Multiple generics*[6]	**4**	VG	VG	VG	VG	VG	VG	VG	P	Feekes 10.5.4
	Metconazole 10.91% **Prothioconazole 18.19%**	**Sphaerex**	**4.0 – 7.3**	VG	VG	VG	VG	E	E	E	G	30 days
	Tebuconazole 22.6% **Trifloxystrobin 22.6%**	**Absolute Maxx SC**	**5.0**	G	VG	VG	VG	VG	E	VG	NL	35 days
	Cyproconazole 7.17% **Picoxystrobin 17.94%**	**Aproach Prima SC**	**3.4 - 6.8**	VG	VG	VG	VG	E	VG	U	NR	45 days

Management of Small Grain Diseases – Fungicide Efficacy for Control of Wheat Disease *(Revised March 2024)* – *continued*

Fungicide(s)				Powdery Mildew	Stagonospora Leaf/Glume Blotch	Septoria Leaf Blotch	Tan Spot	Stripe Rust	Leaf Rust	Stem Rust	Head Scab	Harvest Restriction
Class	Active Ingredient	Product	Rate/A (fl oz)									
Mixed Modes of Action[8]	**Prothioconazole 16.0% Trifloxystrobin 13.7%**	**Delaro 325 SC**	**8.0**	G	VG	VG	VG	VG	VG	VG	NL	Feekes 10.5 35 days
	Pydiflumetofen 13.7% Propiconazole 11.4%	**Miravis Ace SE**	**13.7**	VG	VG	VG	VG	VG	VG	VG	G	Feekes 10.5.4
	Fluxapyroxad 2.8% Pyraclostrobin 18.7% Propiconazole 11.7%	**Nexicor EC**	**7.0 - 13.0**	VG	VG	E	E	E	E	VG	NL	Feekes 10.5
	Fluxapyroxad 14.3% Pyraclostrobin 28.6%	**Priaxor**	**4.0 - 8.0**	G	VG	VG	E	VG	VG	G	NL	Feekes 10.5
	Prothioconazole 17.39% Tebuconazole 8.7% Fluopyram 8.7%	**Prosaro Pro SC**	**10.3-13.6**	G	VG	VG	VG	E	E	E	G	30 days
	Propiconazole 11.7% Azoxystrobin 13.5%	**Quilt Xcel 2.2 SE** *Multiple generics*[6]	**10.5 - 14.0**[7]	VG	VG	VG	VG	E	E	VG	NL	Feekes 10.5.4
	Prothioconazole 10.8% Trifloxystrobin 32.3%	**Stratego YLD**[9]	**4.0**	G	VG	VG	VG	VG	VG	G	NL	Feekes 10.5 35 days
	Benzovindiflupyr 2.9% Propiconazole 11.9% Azoxystrobin 10.5%	**Trivapro SE**	**9.4 - 13.7**	VG	VG	VG	VG	E	E	VG	NL	Feekes 10.5.4
	Flutriafol 18.63% Azoxystrobin 25.30%	**Topguard EQ**	**4.0 - 7.0**	VG	NL	VG	VG	E	E	VG	NL	Feekes 10.5.4 30 days

[1]Efficacy categories: NL=Not Labeled; NR=Not Recommended; P=Poor; F=Fair; G=Good; VG=Very Good; E=Excellent; U = Insufficient data to make statement about efficacy of this product.
[2] Product efficacy may be reduced in areas with fungal populations that are resistant to strobilurin fungicides.
[3] Efficacy may be significantly reduced if solo strobilurin products are applied after stripe rust infection has occurred.
[4] Application of products containing strobilurin fungicides may result in elevated levels of the mycotoxin Deoxynivalenol (DON) in grain damaged by head scab.
[5] Label rate for powdery mildew is 7.5-11.0 fl. oz/A.
[6] Multiple generic products containing the same active ingredients also may be labeled in some states.
[7] A 7 oz/A rate has been approved in several states (Kansas, Nebraska, Colorado, South Dakota) for flag leaf applications when disease levels are low
[8] Products with mixed modes of action generally combine triazole and strobilurin active ingredients. Miravis Ace, Nexicor, Priaxor, and Trivapro include carboxamide active ingredients.
[9] Stratego is a product with the same active ingredients as Stratego YLD but a different formulation (11.4% Propiconazole and 11.4% Trifloxystrobin) and higher use rate (10 fl oz/A)

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. No endorsement is intended for products listed nor is criticism meant for products not listed. Members or participants in the NCERA-184 committee assume no liability resulting from the use of these products.