

# FUNGICIDE CLASSIFICATION

REPEATED USE OF FUNGICIDES WITH THE SAME SITE OF ACTION CAN RESULT IN THE DEVELOPMENT OF FUNGICIDE-RESISTANT PATHOGEN POPULATION.

## by MODE OF ACTION (effect on plant pathogen)

This section groups fungicides by their modes of action to assist you in selecting fungicides **1**) to maintain greater diversity in fungicide use and **2**) to rotate among effective fungicides with different sites of action to delay the development of fungicide resistance.

	FRAC CODE	SITE OF ACTION	CHEMICAL FAMILY	ACTIVE INGREDIENT	PRODUCT EXAMPLES (TRADE NAME)
<b>MITOSIS DISRUPTERS</b>	<b>1</b>	<b>MBC (Methyl Benzimidazole Carbamates) B1: <math>\beta</math>-tubuline assembly in mitosis</b>	Thiophanates	Thiophanate-methyl	Topsin, multiple generics and component in premix
<b>CELL MEMBRANE DISRUPTERS</b>	<b>3</b>	<b>DMI(DeMethylation Inhibitors)/Triazoles G1: C14- demethylase in sterol biosynthesis (erg11/cyp51)</b>	Triazoles	Cyproconazole Flutriafol Propiconazole Tetraconazole Difenoconazole Tebuconazole	Alto and component in premix Topguard and component in premix Tilt, multiple generics Domark, multiple generics and component in premix Component of Quadris Top Folicur, multiple generics and component in premix
			Triazolinthiones	Prothioconazole	Proline and component in premix
<b>RESPIRATION INHIBITORS</b>	<b>7</b>	<b>SDHI (Succinate dehydrogenase inhibitors)/Carboximides complex II: succinate-dehydrogenase</b>	Pyridinecarboxamides Pyrazole-4- carboxamides	Boscalid Fluxapyroxad Solatenol Penthiopyrad	Endura Component of Priaxor Component of Trivapro Fontelis
	<b>11</b>	<b>QoI (Quinone oustide inhibitors)/ Strobilurins C3: complex III: cytochrome bc1 (ubiquinol oxidase) at Qo site (cyt b gene)</b>	Methoxy-acrylates Dihydro-dioxazines Methoxy-carbamates Oximino-acetates	Azoxystrobin Picoxystrobin Fluoxastrobin Pyraclostrobin Trifloxystrobin	Quadris, Equation, Trevo, multiple generics and component in premix Approach and component in premix Aftershock, Evito Headline Component of Stratego YLD
<b>MULTI-SITE CONTACT ACTIVITY</b>	<b>M1</b>	<b>Multi-site contact activity</b>	Inorganic	Copper (different salts)	Badge and multiple generics
	<b>M5</b>		Chloronitriles (Phthalonitriles)	Chlorothalonil	Bravo Weather Stik, multiple generics and component in premix
<b>UNKNOWN</b>	<b>33</b>	<b>Unknown</b>	Phosphonates	Phosphorous acid and salts	Component in premix

For more information and links to additional resources visit [Soybean Fungicide Resistance Hub](https://www.soybeanfungicide.com) at [PlantManagementNetwork.org](https://www.plantmanagementnetwork.org)

## by PREMIX

This section lists premix fungicides alphabetically by their trade names so you can identify the premix's component fungicides and their respective site of action groups. Refer to the **Site of Action** section on the left for more information.

PREMIX	ACTIVE INGREDIENT (%)	FRAC GROUP
<b>QUADRI TOP</b>	Azoxystrobin 18.2%	11
	Difenoconazole 11.4%	3
<b>AVARIS</b>	Azoxystrobin 7.0%	11
	Propiconazole 11.7%	3
<b>QUILT</b>	Azoxystrobin 7.0%	11
	Propiconazole 11.7%	3
<b>QUILT XCEL</b>	Azoxystrobin 13.5%	11
	Propiconazole 11.7%	3
<b>APPROACH PRIMA</b>	Picoxystrobin 17.94%	11
	Cyproconazole 7.17%	3
<b>EVITO T</b>	Fluoxastrobin 18.0%	11
	Tebuconazole 25.0%	3
<b>FORTIX</b>	Fluoxastrobin 14.84%	11
	Flutriafol 19.3%	3
<b>PRIAXOR</b>	Pyraclostrobin 28.58%	11
	Fluxapyroxad 14.33%	7
<b>PRIAXOR D</b>	Pyraclostrobin 28.58%	11
	Fluxapyroxad 14.33%	7
	Tetraconazole 20.5%	3
<b>STRATEGO</b>	Trifloxystrobin 11.4%	11
	Prothioconazole 11.4%	3
<b>STRATEGO YLD</b>	Trifloxystrobin 32.3%	11
	Prothioconazole 10.8%	3
<b>OVERRULE</b>	Tebuconazole 7.5%	3
	Thiophanate-methyl 37.5%	1
<b>TOPSIN XRT</b>	Tebuconazole 7.5%	3
	Thiophanate-methyl 37.5%	1
<b>PROTOCOL</b>	Propiconazole 7.1%	3
	Thiophanate-methyl 23.7%	1
<b>MUSCLE ADV</b>	Tebuconazole 8.47%	3
	Chlorothalonil 30.51%	M5
<b>AFFIANCE</b>	Azoxystrobin 9.35%	11
	Tetraconazole 7.48%	3
<b>AFRAME PLUS</b>	Azoxystrobin 13.5%	11
	Propiconazole 11.7%	3
<b>AZOXY TEB</b>	Azoxystrobin 11.0%	11
	Tebuconazole 18.35%	3
<b>AZOXYPROP XTRA</b>	Azoxystrobin 13.5%	11
	Propiconazole 11.7%	3
<b>CATAMARAN</b>	Potassium Phosphite 38.9%	33
	Chlorothalonil 16.7%	M5
<b>VIATHON</b>	Potassium Phosphite 49%	33
	Tebuconazole 3.3%	3
<b>COVER XL</b>	Azoxystrobin 13.5%	11
	Propiconazole 11.7%	3
<b>CUSTODIA</b>	Azoxystrobin 11.0%	11
	Tebuconazole 18.35%	3
<b>PREEMPTOR</b>	Fluoxastrobin 14.84%	11
	Flutriafol 19.3%	3
<b>QUADRI TOP SB</b>	Azoxystrobin 18.2%	11
	Difenoconazole 7.3%	3

Technical editing for this publication was led by Drs. Heather Kelly, University of Tennessee, Carl Bradley, University of Kentucky, and Clayton Hollier, Louisiana State University.

Check for a label and Material Safety Data Sheet at [www.cdms.net](https://www.cdms.net) to confirm status and always consult label prior to use.

This chart was developed with funding from the soy checkoff.

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