

FUNGICIDE CLASSIFICATION



Repeated use of fungicides with the same mode of action can result in the selection of fungicide-resistant strains of plant pathogens.

by MODE OF ACTION (MOA)

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

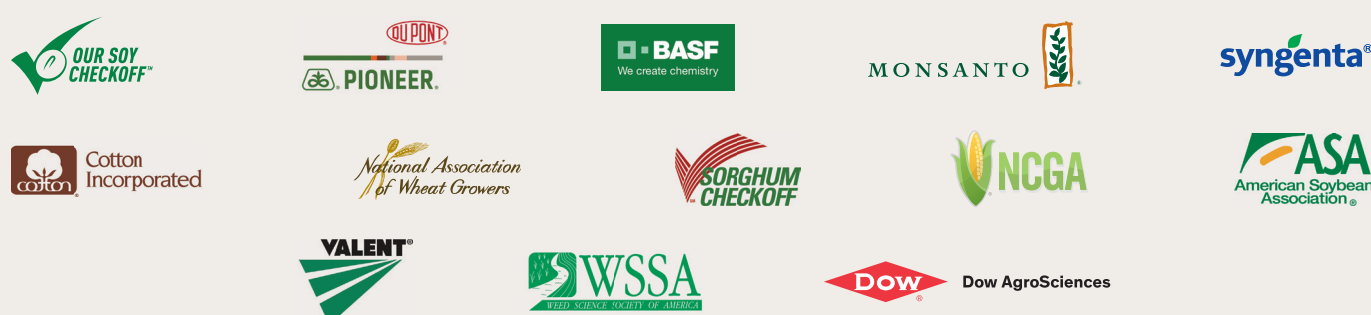
FRAC CODE	MODE OF ACTION	CHEMICAL FAMILY	ACTIVE INGREDIENT	PRODUCT EXAMPLES (Trade Name)
MOA MITOSIS DISRUPTERS				
1	MBC (methyl benzimidazole carbamates) B1: β -tubuline assembly in mitosis	Thiophanates	Thiophanate-methyl	<i>Topsin, multiple generics and component in premix</i>
MOA CELL MEMBRANE DISRUPTERS				
3	DMI (demethylation inhibitors)/ triazoles G1: C14- demethylase in sterol biosynthesis (erg11/cyp51)	Triazoles	Cyproconazole	<i>Alto and component in premix</i>
			Flutriafol	<i>Topguard and component in premix</i>
			Propiconazole	<i>Tilt, multiple generics and component in premix</i>
			Tetraconazole	<i>Domark, multiple generics and component in premix</i>
			Difenoconazole	<i>Component of Quadris Top</i>
		Tebuconazole	<i>Folicur, multiple generics and component in premix</i>	
Triazolinthiones	Prothioconazole	<i>Proline and component in premix</i>		
MOA RESPIRATION INHIBITORS				
7	SDHI (succinate dehydrogenase inhibitors)/carboximides COMPLEX II: succinate-dehydrogenase	Pyridinecarboxamides	Boscalid	<i>Endura</i>
		Pyrazole-4-carboxamides	Fluxapyroxad Benzovindiflupyr Penthiopyrad	<i>Component of Priaxor Component of Trivapro Vertisan</i>
11	QoI (quinone outside inhibitors)/ Strobilurins C3: COMPLEX III: cytochrome bc1 (ubiquinol oxidase) at Qo site (cyt b gene)	Methoxy-acrylates	Azoxystrobin	<i>Quadris, multiple generics and component in premix</i>
			Picoxystrobin	<i>Approach and component in premix</i>
		Dihydro-dioxazines	Fluoxastrobin	<i>Aftershock, Evito</i>
		Methoxy-carbamates	Pyraclastrobin	<i>Headline and component in premix</i>
		Oximino-acetates	Trifloxystrobin	<i>Component in premix</i>
MOA OXIDATIVE PHOSPHORYLATION UNCOUPLERS				
29	Oxidative phosphorylation uncouplers	2,6-dinitroanilines	Fluazinam	<i>Omega</i>
MOA UNKNOWN				
33	UNKNOWN	Phosphonates	Phosphorous acid and salts	<i>Component in premix</i>
MOA MULTI-SITE CONTACT ACTIVITY				
M1	MULTI-SITE CONTACT ACTIVITY	Inorganic	Copper (different salts)	<i>Badge and multiple generics</i>
M5		Chloronitriles (Phthalonitriles)	Chlorothalonil	<i>Bravo Weather Stik, multiple generics and component in premix</i>

by PREMIX

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

PREMIX	ACTIVE INGREDIENT	FRAC CODE
AFFIANCE	Tetraconazole	3
	Azoxystrobin	11
AFRAME PLUS	Propiconazole	3
	Azoxystrobin	11
APROACH PRIMA	Cyproconazole	3
	Picoxystrobin	11
AVARIS	Propiconazole	3
	Azoxystrobin	11
AZOXY TEB	Tebuconazole	3
	Azoxystrobin	11
AZOXYPROP XTRA	Propiconazole	3
	Azoxystrobin	11
CATAMARAN	Potassium Phosphite	33
	Chlorothalonil	M5
COVER XL	Propiconazole	3
	Azoxystrobin	11
CUSTODIA	Tebuconazole	3
	Azoxystrobin	11
EVITO T	Tebuconazole	3
	Fluoxastrobin	11
FORTIX	Flutriafol	3
	Fluoxastrobin	11
MUSCLE ADV	Tebuconazole	3
	Chlorothalonil	M5
OVERRULE	Thiophanate-methyl	1
	Tebuconazole	3
PREEMPTOR	Flutriafol	3
	Fluoxastrobin	11
PRIAXOR	Fluxapyroxad	7
	Pyraclastrobin	11
PRIAXOR D	Tetraconazole	3
	Fluxapyroxad	7
PROTOCOL	Pyraclastrobin	11
	Thiophanate-methyl	1
QUADRI TOP QUADRI TOP SBX	Propiconazole	3
	Azoxystrobin	11
QUILT QUILT XCEL	Thiophanate-methyl	1
	Propiconazole	3
STRATEGO	Azoxystrobin	11
	Propiconazole	3
STRATEGO YLD	Trifloxystrobin	11
	Prothioconazole	3
TOPSIN XTR	Trifloxystrobin	11
	Thiophanate-methyl	1
TRIVAPRO	Tebuconazole	3
	Propiconazole	3
VIATHON	Benzovindiflupyr	7
	Azoxystrobin	11
	Tebuconazole	3
	Potassium Phosphite	33

Take Action is endorsed by the following organizations:



For more information and links to additional resources, visit IWillTakeAction.com

Technical editors for this poster include Kiersten Wise, Ph.D., Purdue University, Carl Bradley, Ph.D., University of Kentucky, Daren Mueller, Ph.D., Iowa State University, Heather Kelly, Ph.D., University of Tennessee.

This chart was developed with funding from the soy checkoff.

The United Soybean Board and all Take Action partners, including the companies mentioned above neither recommend nor discourage the implementation of any advice contained herein, and are not liable for the use or misuse of the information provided.

©2017 United Soybean Board