

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) |
|---|---|----------------------------------|--|--|
| 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> |
| 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> |
| 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 | Pyraclostrobin | <i>Headline and component in premix</i> |
| | | Oximino-acetates | Trifloxystrobin | <i>Component in premix</i> |
| OXIDATIVE PHOSPHORYLATION UNCOUPLERS | | | | |
| 29 | Oxidative phosphorylation uncouplers | 2,6-dinitroanilines | Fluazinam | <i>Omega</i> |
| UNKNOWN | | | | |
| 33 | UNKNOWN | Phosphonates | Phosphorous acid and salts | <i>Component in premix</i> |
| 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 |
| | Pyraclostrobin | 11 |
| PRIAXOR D | Tetraconazole | 3 |
| | Fluxapyroxad | 7 |
| PROTOCOL | Pyraclostrobin | 11 |
| | Thiophanate-methyl | 1 |
| QUADRI TOP QUADRI TOP SBX | Propiconazole | 3 |
| | Azoxystrobin | 11 |
| QUILT QUILT XCEL | Propiconazole | 3 |
| | Azoxystrobin | 11 |
| STRATEGO | Propiconazole | 3 |
| | Trifloxystrobin | 11 |
| STRATEGO YLD | Prothioconazole | 3 |
| | Trifloxystrobin | 11 |
| TOPSIN XTR | Thiophanate-methyl | 1 |
| | Tebuconazole | 3 |
| TRIVAPRO | Propiconazole | 3 |
| | Benzovindiflupyr | 7 |
| VIATHON | Azoxystrobin | 11 |
| | Tebuconazole | 3 |
| | Potassium Phosphite | 33 |

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