

HERBICIDE CLASSIFICATION



Repeated use of herbicides with the same site of action can result in the development of herbicide-resistant weed populations.

by MODE OF ACTION

(effect on plant growth)

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

SITE-OF-ACTION GROUP	SITE OF ACTION	CHEMICAL FAMILY	ACTIVE INGREDIENT	PRODUCT EXAMPLES (TRADE NAME*)									
1	LIPID SYNTHESIS INHIBITORS	Aryloxyphenoxypropionate (fops)	clodinafop	<i>Discover NG</i>									
			cyhalofop	<i>Clincher</i>									
2	ACCASE INHIBITORS (acetyl CoA carboxylase)	Cyclohexanedione (dims)	fenoxaprop	<i>Ricestar, Tecoma, others</i>									
			fluzifop	<i>Fusilade DX</i>									
			quizalofop	<i>Assure II, Targa</i>									
			clothodim	<i>Select Max, others</i>									
			sethoxydim	<i>Poast, Poast Plus</i>									
			pinoxaden	<i>Axial XL</i>									
			3	AMINO ACID SYNTHESIS INHIBITORS	Imidazolinone	imazamox	<i>Raptor, Beyond, Clearmax</i>						
						imazapic	<i>Plateau</i>						
						imazaquin	<i>Scepter</i>						
						imazethapyr	<i>Pursuit, Newpath</i>						
						Pyrimidylthiobenzoic acid	bispyribac	<i>Regiment</i>					
							pyrithiobac	<i>Staple</i>					
							flucarbazone	<i>Everest, Pre-Pare, Sierra</i>					
						Sulfonylamino carbonyl-triazolinones	propoxycarbazone	<i>Olympus</i>					
							thiencarbazone	<i>Varro</i>					
bensulfuron	<i>Londax</i>												
chlorimuron	<i>Classic</i>												
chlorsulfuron	<i>Glean</i>												
halosulfuron	<i>Permit</i>												
iodosulfuron	<i>Autumn</i>												
mesosulfuron	<i>Osprey</i>												
metsulfuron	<i>Ally</i>												
nicosulfuron	<i>Accent Q, Zest</i>												
orthosulfuron	<i>Strada</i>												
primisulfuron	<i>Beacon</i>												
Sulfonylurea	prosulfuron	<i>Peak</i>											
	rimsulfuron	<i>Resolve, Matrix</i>											
	sulfosulfuron	<i>Maverick</i>											
	thifensulfuron	<i>Harmony</i>											
	triasulfuron	<i>Amber</i>											
	tribenuron	<i>Express</i>											
	triflousulfuron	<i>Envoke</i>											
	triflusaluron	<i>UpBeat</i>											
	cloransulam	<i>FirstRate</i>											
	florasulam	<i>component of Orion</i>											
	flumetsulam	<i>Python, Acolade</i>											
	penoxulam	<i>Grasp</i>											
pyroxulam	<i>PowerFlex HL</i>												
9	EPSP SYNTHASE INHIBITOR (5-enolpyruvate-shikimate-3-phosphate)	Organophosphorus	glyphosate	<i>Roundup, Touchdown, several</i>									
			4	GROWTH REGULATORS	Arylpicolinate	halauxifen	<i>Arylex*, Elevore*</i>						
					Benzoic acid	dicamba	<i>Banvel, Clarity, DiFlexx, Engenia, Felixkan*, XtendiMax, others</i>						
						aminopyralid	<i>Milestone</i>						
					Carboxylic acid	clopyralid	<i>Stinger</i>						
						fluroxypyr	<i>Starane</i>						
					Phenoxy	triclopyr	<i>Grandstand</i>						
						quinclorac	<i>Facet</i>						
					5	T1R1 AUXIN RECEPTORS (synthetic auxins)	MCPA	2,4-D	<i>2,4-D, others</i>				
			MCPA	<i>MCPA, others</i>									
			19	AUXIN TRANSPORT INHIBITOR				Semicarbazone	diflufenopyr	<i>component of Status</i>			
									5	PHOTOSYNTHESIS INHIBITORS	Phenylcarbamate	desmedipham	<i>Betalex</i>
												phenmedipham	<i>component of Betamix</i>
												atrazine	<i>AAtrex, others</i>
											Triazine	prometryn	<i>Caporal</i>
simazine	<i>Princep</i>												
Triazinone	hexazinone	<i>Velpar</i>											
	metribuzin	<i>Metribuzin, others</i>											
Uracil	terbacil	<i>Sinbar</i>											
6	PHOTOSYSTEM II INHIBITORS (different binding than 5 & 7)	Benzothiadiazole							benzazon	<i>Basagran, others</i>			
7	PHOTOSYSTEM II INHIBITORS (different binding than 5 & 7)	Nitrile							bromoxynil	<i>Buctril, others</i>			
9	PHOTOSYSTEM II INHIBITORS (different binding than 5 & 6)	Amide							propanil	<i>SuperWham</i>			
diuron	<i>Direx, Karmex</i>												
	fluometuron	<i>Cotoran</i>											
Urea	linuron	<i>Lorex, Linex</i>											
	10	NITROGEN METABOLISM INHIBITOR							GLUTAMINE SYNTHETASE INHIBITOR	Organophosphorus	glufosinate	<i>Liberty, Cheetha</i>	
12	PIGMENT INHIBITORS	PHYTOENE DESATURASE (PDS) INHIBITOR							none recognized	fluridone	<i>Sonar</i>		
13	DOXP SYNTHASE INHIBITOR (1-DEOXY-D-XYLULOSE 5-PHOSPHATE)	Isoxazolidinone			clomazone	<i>Command</i>							
27	HPPD INHIBITORS	Pyrazole			isoxaflutole	<i>Balance Flexx</i>							
			pyrasulfotole	<i>component of Huskie</i>									
Pyrazolone	topramezone	<i>Armezon, Impact</i>											
	mesotrione	<i>Callisto</i>											
Triketone	tembotrione	<i>Laudis</i>											
	bicyclopyrone	<i>component of Acuron</i>											
14	CELL MEMBRANE DISRUPTERS	Aryl triazinone	sulfentrazone	<i>Spartan</i>									
			carfentrazone	<i>Aim</i>									
			fluthiacet	<i>Cadet</i>									
			Diphenylether	acifluorfen	<i>Ultra Blazer</i>								
				fomesafen	<i>Flexstar, Reflex, others</i>								
			N-phenylphthalimide	flumiclorac	<i>Resource</i>								
				flumioxazin	<i>Valor, Rowel</i>								
			Pyrimidinone	saflufenacil	<i>Sharpen</i>								
				diquat	<i>Reglone</i>								
			Bipyridylum	paraquat	<i>Gramoxone SL</i>								
				3	SEEDLING ROOT GROWTH INHIBITORS	MICROTUBULE INHIBITORS	Benzamide	pronamide	<i>Kerb</i>				
			Dimitroaniline	ethalfluralin	<i>Sonalan</i>								
				pendimethalin	<i>Prowl H2, others</i>								
				trifluralin	<i>Treflan, others</i>								
8	SEEDLING SHOOT GROWTH INHIBITORS	Thiocarbamate	butylate	<i>Sutan +</i>									
			cycloate	<i>Ro-Neet</i>									
			EPIC	<i>Eradicane, Eptam</i>									
			thiobencarb	<i>Bolero</i>									
			triallate	<i>Far-Go</i>									
			Chloroacetamide	acetochlor	<i>Degree, Harness, Surpass NXT, Topnotch, Warrant, others</i>								
				alachlor	<i>Intra, Micro-Tech</i>								
				s-metolachlor	<i>Dual Magnum, others</i>								
				dimethenamid-P	<i>Outlook</i>								
				flufenacet	<i>Define</i>								
			Oxacetamide	pyroxasulfone	<i>Zidua</i>								
				15	LONG-CHAIN FATTY ACID INHIBITORS	Specific Site Unknown	Benzofurane	ethofumesate	<i>Nortron</i>				
			17	UNDEFINED	NUCLEIC ACID INHIBITOR	Arsenical	MSMA	<i>MSMA</i>					

by PREMIX

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

PREMIX	COMPONENT		SITE-OF-ACTION GROUP
	ACTIVE INGREDIENT	TRADE NAME*	
ACURON	bicyclopyrone	-----	27
	mesotrione	<i>Callisto</i>	27
ACURON FLEXI	atrazine	<i>AAtrex</i>	5
	s-metolachlor	<i>Dual II Magnum</i>	15
AFFINITY BROADSPEC (Affinity Tankmix)	bicyclopyrone	-----	27
	mesotrione	<i>Callisto</i>	27
AFFORIA	s-metolachlor	<i>Dual II Magnum</i>	15
	thifensulfuron	<i>Harmony</i>	2
AGILITY SG	tribenuron	<i>Express</i>	2
	thifensulfuron	<i>Harmony</i>	2
ALLY EXTRA	tribenuron	<i>Express</i>	2
	metsulfuron	<i>Ally</i>	2
ANTHEM ATZ	pyroxasulfone	<i>Zidua</i>	15
	fluthiacet	<i>Cadet</i>	14
ANTHEM FLEX	atrazine	<i>AAtrex</i>	5
	pyroxasulfone	<i>Zidua</i>	15
ANTHEM MAXX	carfentrazone	<i>Aim</i>	14
	pyroxasulfone	<i>Zidua</i>	15
ARMEZON PRO	fluthiacet	<i>Cadet</i>	14
	tropramezone	<i>Armezon</i>	27
AUTHORITY ASSIST	dimethenamid-P	<i>Outlook</i>	15
	sulfentrazone	<i>Spartan</i>	14
AUTHORITY ELITE	imazethapyr	<i>Pursuit</i>	2
	sulfentrazone	<i>Spartan</i>	14
AUTHORITY FIRST	s-metolachlor	<i>Dual Magnum</i>	15
	sulfentrazone	<i>Spartan</i>	14
AUTHORITY MTZ	cloransulam	<i>FirstRate</i>	2
	sulfentrazone	<i>Spartan</i>	14
AUTHORITY XL (Authority Maxx)	metribuzin	<i>Metribuzin</i>	5
	sulfentrazone	<i>Spartan</i>	14
AUTUMN SUPER	chlorimuron	<i>Classic</i>	2
	iodosulfuron	<i>Autumn</i>	2
AXIAL STAR	thiencarbazone	<i>Varro</i>	2
	pinoxaden	<i>Axial XL</i>	1
AXIOM	fluroxypyr	<i>Starane</i>	4
	flufenacet	<i>Define</i>	15
BASIS BLEND	metribuzin	<i>Metribuzin</i>	5
	rimsulfuron	<i>Resolve</i>	2
BETAMIX	thifensulfuron	<i>Harmony</i>	2
	phenmedipham	-----	5
BICEP II MAGNUM (Bicep Lite II Magnum)	s-metolachlor	<i>Dual II Magnum</i>	15
	atrazine	<i>AAtrex</i>	5
BOUNDARY	s-metolachlor	<i>Dual Magnum</i>	15
	metribuzin	<i>Metribuzin</i>	5
BRAKE F2	fomesafen	<i>Flexstar</i>	14
	fluridone	<i>Sonar</i>	12
BREAKFREE NXT ATZ (Breakfree NXT Lite)	acetochlor	<i>Breakfree NXT</i>	15
	atrazine	<i>AAtrex</i>	5
BROADAXE XC	s-metolachlor	<i>Dual Magnum</i>	15
	sulfentrazone	<i>Spartan</i>	14
BROADHEAD	carfentrazone	<i>Aim</i>	14
	quinclorac	<i>Facet</i>	4
BRONATE	bromoxynil	<i>Buctril</i>	6
	MCPA	<i>MCPA</i>	4
CALLISTO GT	mesotrione	<i>Callisto</i>	27
	glyphosate	<i>glyphosate</i>	9
CALLISTO XTRA	mesotrione	<i>Callisto</i>	27
	atrazine	<i>AAtrex</i>	5
CANOPY	chlorimuron	<i>Classic</i>	2
	metribuzin	<i>Metribuzin</i>	5
CANOPY EX	chlorimuron	<i>Classic</i>	2
	tribenuron	<i>Express</i>	2
CAPRENO	thiencarbazone	<i>Varro</i>	2
	tembotrione	<i>Laudis</i>	27
CARNIVORE	MCPA	<i>MCPA</i>	4
	clopyralid	<i>Stinger</i>	4
CHEETAH MAX	bromoxynil	<i>Buctril</i>	6
	glufosinate	<i>Cheetah</i>	10
CINCH ATZ (Cinch ATZ Lite)	fomesafen	<i>Reflex</i>	14
	s-metolachlor	<i>Dual II Magnum</i>	15
CLEARPATH	atrazine	<i>AAtrex</i>	5
	quinclorac	<i>Facet</i>	4
COLT + SALVO (Trump Card)	imazethapyr	<i>Newpath</i>	2
	2,4-D	<i>2,4-D</i>	4
COLT + SWORD	fluroxypyr	<i>Starane</i>	4
	MCPA	<i>MCPA</i>	4
CORVUS	fluroxypyr	<i>Starane</i>	4
	thiencarbazone	<i>Varro</i>	2
CURTAIL	isoxaflutole	<i>Balance Flexx</i>	27
	clopyralid	<i>Stinger</i>	4
CURTAIL M	2,4-D	<i>2,4-D</i>	4
	clopyralid	<i>Stinger</i>	4
DEGREE XTRA	MCPA	<i>MCPA</i>	4
	acetochlor	<i>Degree</i>	15
DIFLEXX DUO	atrazine	<i>AAtrex</i>	5
	dicamba	<i>DiFlexx</i>	4
DILIGENT*	tembotrione	<i>Laudis</i>	27
	chlorimuron	<i>Classic</i>	2
ENLIST DUO	rimsulfuron	<i>Resolve</i>	2
	flumioxazin	<i>Valor</i>	14
ENLITE	2,4-D	<i>2,4-D</i>	4
	glyphosate	<i>glyphosate</i>	9
ENLIVE	chlorimuron	<i>Classic</i>	2
	thifensulfuron	<i>Harmony</i>	2
EXPERT	thifensulfuron	<i>Harmony</i>	2
	flumioxazin	<i>Valor</i>	14
EXTREME	s-metolachlor	<i>Dual Magnum</i>	15
	atrazine	<i>AAtrex</i>	5
FIELD MASTER	glyphosate	<i>glyphosate</i>	9
	imazethapyr	<i>Pursuit</i>	2
FIERCE	glyphosate	<i>glyphosate</i>	9
	acetochlor	<i>Harness</i>	15
FIERCE XLT	atrazine	<i>AAtrex</i>	5
	glyphosate	<i>glyphosate</i>	9
FINESSE	flumioxazin	<i>Valor</i>	14
	pyroxasulfone	<i>Zidua</i>	15
FINESSE GRASS AND BROADLEAF	chlorimuron	<i>Classic</i>	2
	chlorsulfuron	<i>Glean</i>	2
FLEXSTAR GT	metsulfuron	<i>Ally</i>	2
	glyphosate	<i>glyphosate</i>	9
FOREFRONT HL	aminopyralid	<i>Milestone</i>	4
	2,4-D	<i>2,4-D</i>	4
FOXFIRE	fenoxaprop	<i>Tecoma</i>	1
	pinoxaden	<i>Axial XL</i>	1
FULTIME NXT	acetochlor	<i>TopNotch</i>	15
	atrazine	<i>AAtrex</i>	5
FUSION	fluzifop	<i>Fusilade DX</i>	1
	fenoxaprop	<i>Puma</i>	1
GANGSTER	flumioxazin	<i>Valor</i>	14
	cloransulam	<i>FirstRate</i>	2
GOLDSKY	pyroxasulfone	<i>PowerFlex HL</i>	2
	florasulam	-----	2
HALEX GT	fluroxypyr	<i>Starane</i>	4
	s-metolachlor	<i>Dual Magnum</i>	15
HARNESX XTRA	mesotrione	<i>Callisto</i>	27
	glyphosate	<i>glyphosate</i>	9
HORNET	acetochlor	<i>Harness</i>	15
	atrazine	<i>AAtrex</i>	5
HUSKIE	clopyralid	<i>Stinger</i>	4
	flumetsulam	<i>Python</i>	2
HUSKIE COMPLETE	pyrasulfotole	-----	27
	bromoxynil	<i>Buctril</i>	6
INSTIGATE	pyrasulfotole	-----	27
	thiencarbazone	<i>Varro</i>	2
KEYSTONE NXT (Keystone LA NXT)	rimsulfuron	<i>Resolve, Matrix</i>	2
	mesotrione	<i>Callisto</i>	27
KOCHIADORE	acetochlor	<i>Surpass NXT</i>	15
	atrazine	<i>AAtrex</i>	5
LEADOFF	atrazine	<i>AAtrex</i>	5
	mesotrione	<i>Callisto</i>	27
LEXAR EZ	2,4-D	<i>2,4-D, others</i>	4
	fluroxypyr	<i>Starane</i>	4
LUMAX EZ	bromoxynil	<i>Buctril, others</i>	6
	rimsulfuron	<i>Resolve</i>	2
MARVEL	thifensulfuron	<i>Harmony</i>	2
	mesotrione	<i>Callisto</i>	27
OBEY	s-metolachlor	<i>Dual II Magnum</i>	15
	atrazine	<i>AAtrex</i>	5
OPTILL	fluthiacet	<i>Cadet</i>	14
	fomesafen	<i>Flexstar</i>	14
OPTILL PRO	clomazone	<i>Command</i>	13
	quinclorac	<i>Facet</i>	4
ORION	saflufenacil	<i>Sharpen</i>	14
	imazethapyr	<i>Pursuit</i>	2
PANDFLEX	saflufenacil	<i>Sharpen</i>	14
	imazethapyr	<i>Pursuit</i>	2
PERMIT PLUS	dimethenamid-P	<i>Outlook</i>	15
	florasulam	-----	2
PREFIX	MCPA	<i>MCPA</i>	4
	thifensulfuron	<i>Harmony</i>	2
PREQUEL	tribenuron	<i>Express</i>	2
	thifensulfuron	<i>Harmony</i>	2
PROGRESS	halosulfuron	<i>Permit</i>	2
	s-metolachlor	<i>Dual Magnum</i>	15
PULSAR	fomesafen	<i>Reflex</i>	14
	rimsulfuron	<i>Resolve</i>	2
RAVE	isoxaflutole	<i>Balance</i>	27
	desmedipham	<i>Betalex</i>	5
RAZE	phenmedipham	-----	5
	ethofumesate	<i>Nortron</i>	16
REALM Q	dicamba	<i>Clarity</i>	4
	fluroxypyr	<i>Starane</i>	4
REBELEX	halauxifen	<i>Arylex</i>	4
	florasulam	-----	2
RESICORE			