

# 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	ACCASE INHIBITORS (acetyl CoA carboxylase)	Aryloxyphenoxypropionate (fops)	clodinafop	Discover NG															
			cyhalofop	Clincher															
			fenoxaprop	Ricestar, Tecoma, others															
			fluzifop	Fusilade DX															
			quizalofop	Assure II, Targa															
			clethodim	Select Max, others															
			sethoxydim	Poast, Poast Plus															
			pinoxaden	Axial XL															
			2	ALS INHIBITORS (acetolactate synthase)	Imidazolinone	imazamox	Raptor, Beyond, Clearmax												
						imazapic	Plateau												
						imazaquin	Scepter												
						imazethapyr	Pursuit, Newpath												
						Pyrimidinylthiobenzoic acid	bispyribac	Regiment											
							pyrithiobac	Staple											
						Sulfonylaminocarbonyltriazolinones	flucarbazone	Everest, Pre-Pare, Sierra											
propoxycarbazone	Olympus																		
thiencarbazone	Varro																		
bensulfuron	Londax																		
chlorimuron	Classic																		
chlorsulfuron	Glean																		
halosulfuron	Permit																		
iodosulfuron	Autumn																		
mesosulfuron	Osprey																		
metsulfuron	Ally																		
3	EPSP SYNTHASE INHIBITOR (5-enolpyruvyl-shikimate-3-phosphate)	Organophosphorus	glyphosate	Roundup, Touchdown, several															
			4	GROWTH REGULATORS	Arylpicolinate	halauxifen	Arylex*, Elevore*												
						Benzoic acid	dicamba	Banvel, Clarity, DiFlexx, Engenia, FlexKapan*, XtendiMax, others											
							aminopyralid	Milestone											
						Carboxylic acid	clopyralid	Stinger											
							fluroxypyr	Starane											
						Phenoxy	triclopyr	Grandstand											
							quinclorac	Facet											
						5	PHOTOSYNTHESIS INHIBITORS	Phenylcarbamate	desmedipham	Betalex									
									phenmedipham	component of Betamix									
									Triazine	atrazine	AAtrex, others								
										prometryn	Caporal								
									simazine	Princep									
									Triazinone	hexazinone	Velpar								
										metribuzin	Metribuzin, others								
Uracil	terbacil	Sinbar																	
6	PHOTOSYSTEM II INHIBITORS (different binding than 5 & 7)	Benzothiadiazole	benzazon	Basagran, others															
			7	PHOTOSYSTEM II INHIBITORS (different binding than 5 & 6)	Amide				propanil	SuperWham									
									diuron	Direx, Karmex									
									flumetrolon	Cotoran									
									linuron	Lorax, Linex									
									8	LIPID SYNTHESIS INHIBITOR (not ACCase)	Thiocarbamate	butylate	Sutan +						
												cycloate	Ro-Neet						
						EPIC	Eradicane, Eptam												
						thiobencarb	Bolero												
						triallate	Far-Go												
						9	LONG-CHAIN FATTY ACID INHIBITORS	Chloroacetamide				acetochlor	Degree, Harness, Surpass NXT, Topnotch, Warrant, others						
												alachlor	Intra, Micro-Tech						
												s-metolachlor	Dual II Magnum, others						
												dimethenamid-P	Outlook						
												Oxyacetamide	flufenacet	Define					
Pyrazole	pyroxasulfone	Zidua																	
10	NITROGEN METABOLISM INHIBITOR	Organophosphorus	glufosinate	Liberty, Cheetha															
			11	CELL MEMBRANE DISRUPTERS	Aryl triazinone							sulfentrazone	Spartan						
												carfentrazone	Aim						
												fluthiacet	Cadet						
									Diphenylether	acifluorfen	Ultra Blazer								
										fomesafen	Flexstar, Reflex, others								
									N-phenylphthalimide	flumiclorac	Resource								
										flumioxazin	Valor, Rowel								
									Pyrimidinone	saflufenacil	Sharpen								
						diquat	Reglone												
						paraquat	Gramoxone SL												
						12	PIGMENT INHIBITORS	Benzamide	pronamide	Kerb									
									13	DOXP SYNTHASE INHIBITOR (1-DEOXY-D-XYLULOSE 5-PHOSPHATE)	Isoxazolidinone	clomazone	Command						
												14	PPO INHIBITORS	Diphenylether	isoxaflutole	Balance Flexx			
															Pyrazole	pyrasulfotole	component of Huskie		
topramezone	Armezon, Impact																		
Pyrazolone	mesotrione	Callisto																	
	tembotrione	Laudis																	
bicyclopyrone	component of Acuron																		
15	SEEDLING SHOOT GROWTH INHIBITORS	Benzimidazole	fluridone	Sonar															
			16	SPECIFIC SITE UNKNOWN	Benzofurane										ethofumesate	Nortron			
															17	NUCLEIC ACID INHIBITOR	Arsenical	MSMA	MSMA

## 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	Callisto	27
ACURON FLEXI	atrazine	AAtrex	5
	s-metolachlor	Dual II Magnum	15
AFFINITY BROADSPEC (Affinity Tankmix)	bicyclopyrone	-----	27
	mesotrione	Callisto	27
AFFORIA	s-metolachlor	Dual II Magnum	15
	thifensulfuron	Harmony	2
AGILITY SG	tribenuron	Express	2
	thifensulfuron	Harmony	2
ALLY EXTRA	thifensulfuron	Harmony	2
	tribenuron	Express	2
ANTHEM ATZ	metsulfuron	Ally	2
	thifensulfuron	Harmony	2
ANTHEM FLEX	pyroxasulfone	Zidua	15
	carfentrazone	Aim	14
ANTHEM MAXX	pyroxasulfone	Zidua	15
	fluthiacet	Cadet	14
ARMEZON PRO	fluthiacet	Cadet	14
	tropramezone	Armezon	27
AUTHORITY ASSIST	dimethenamid-P	Outlook	15
	sulfentrazone	Spartan	14
AUTHORITY ELITE	imazethapyr	Pursuit	2
	sulfentrazone	Spartan	14
AUTHORITY FIRST	s-metolachlor	Dual Magnum	15
	sulfentrazone	Spartan	14
AUTHORITY MTZ	cloransulam	FirstRate	2
	sulfentrazone	Spartan	14
AUTHORITY XL (Authority Maxx)	metribuzin	Metribuzin	5
	sulfentrazone	Spartan	14
AUTUMN SUPER	chlorimuron	Classic	2
	iodosulfuron	Autumn	2
AXIAL STAR	thiencarbazone	Varro	2
	pinoxaden	Axial XL	1
AXIOM	fluroxypyr	Starane	4
	flufenacet	Define	15
BASIS BLEND	metribuzin	Metribuzin	5
	rimsulfuron	Resolve	2
BETAMIX	thifensulfuron	Harmony	2
	phenmedipham	-----	5
BICEP II MAGNUM (Bicep Lite II Magnum)	s-metolachlor	Dual II Magnum	15
	atrazine	AAtrex	5
BOUNDARY	s-metolachlor	Dual Magnum	15
	metribuzin	Metribuzin	5
BRAKE F2	fomesafen	Flexstar	14
	fluridone	Sonar	12
BREAKFREE NXT ATZ (Breakfree NXT Lite)	acetochlor	Breakfree NXT	15
	atrazine	AAtrex	5
BROADAXE XC	s-metolachlor	Dual Magnum	15
	sulfentrazone	Spartan	14
BROADHEAD	carfentrazone	Aim	14
	quinclorac	Facet	4
BRONATE	quinclorac	Facet	4
	bromoxynil	Buctril	6
CALLISTO GT	MCPA	MCPA	4
	mesotrione	Callisto	27
CALLISTO XTRA	glyphosate	glyphosate	9
	mesotrione	Callisto	27
CANOPY	atrazine	AAtrex	5
	chlorimuron	Classic	2
CANOPY EX	metribuzin	Metribuzin	5
	chlorimuron	Classic	2
CAPRENO	tribenuron	Express	2
	thiencarbazone	Varro	2
CARNIVORE	tembotrione	Laudis	27
	MCPA	MCPA	4
CHEETAH MAX	clopyralid	Stinger	4
	bromoxynil	Buctril	6
CINCH ATZ (Cinch ATZ Lite)	glufosinate	Cheetah	10
	fomesafen	Reflex	14
CLEARPATH	s-metolachlor	Dual II Magnum	15
	atrazine	AAtrex	5
COLT + SALVO (Trump Card)	quinclorac	Facet	4
	imazethapyr	Newpath	2
COLT + SWORD	2,4-D	2,4-D	4
	fluroxypyr	Starane	4
CORVUS	MCPA	MCPA	4
	fluroxypyr	Starane	4
CURTAIL	thiencarbazone	Varro	2
	isoxaflutole	Balance Flexx	27
CURTAIL M	clopyralid	Stinger	4
	2,4-D	2,4-D	4
DEGREE XTRA	clopyralid	Stinger	4
	MCPA	MCPA	4
DIFLEXX DUO	acetochlor	Degree	15
	atrazine	AAtrex	5
DILIGENT*	dicamba	DiFlexx	4
	tembotrione	Laudis	27
ENLIST DUO	chlorimuron	Classic	2
	rimsulfuron	Resolve	2
ENLITE	flumioxazin	Valor	14
	thifensulfuron	Harmony	2
ENLITE	flumioxazin	Valor	14
	chlorimuron	Classic	2
ENVIVE	chlorimuron	Classic	2
	thifensulfuron	Harmony	2
EXPERT	thifensulfuron	Harmony	2
	flumioxazin	Valor	14
EXTREME	s-metolachlor	Dual Magnum	15
	atrazine	AAtrex	5
FIELD MASTER	glyphosate	glyphosate	9
	imazethapyr	Pursuit	2
FIERCE	glyphosate	glyphosate	9
	acetochlor	Harness	15
FIERCE XLT	atrazine	AAtrex	5
	glyphosate	glyphosate	9
FINESSE	flumioxazin	Valor	14
	pyroxasulfone	Zidua	15
FINESSE GRASS AND BROADLEAF	flumioxazin	Valor	14
	chlorimuron	Classic	2
FLEXSTAR GT	chlorsulfuron	Glean	2
	metsulfuron	Ally	2
FOREFRONT HL	chlorsulfuron	Glean	2
	flucarbazone	Everest	2
FOXFIRE	fomesafen	Flexstar	14
	glyphosate	glyphosate	9
FUSION	aminopyralid	Milestone	4
	2,4-D	2,4-D	4
GANGLSTER	fenoxaprop	Tecoma	1
	pinoxaden	Axial XL	1
GOLDSKY	acetochlor	TopNotch	15
	atrazine	AAtrex	5
HALEX GT	fluzifop	Fusilade DX	1
	fenoxaprop	Puma	1
HUSKIE	flumioxazin	Valor	14
	chlorsulfuron	Glean	2
HUSKIE COMPLETE	flumioxazin	Valor	14
	chlorsulfuron	Glean	2
INSTIGATE	pyroxasulfone	Zidua	15
	fluthiacet	Cadet	14
KEYSTONE NXT (Keystone LA NXT)	fluthiacet	Cadet	14
	fomesafen	Flexstar	14
KOCHIADORE	clomazone	Command	13
	quinclorac	Facet	4
LEADOFF	saflufenacil	Sharpen	14
	imazethapyr	Pursuit	2
LEXAR EZ	imazethapyr	Pursuit	2
	saflufenacil	Sharpen	14
LUMAX EZ	dimethenamid-P	Outlook	15
	florasulam	-----	2
MARVEL	MCPA	MCPA	4
	thifensulfuron	Harmony	2
MCPA	thifensulfuron	Harmony	2
	tribenuron	Express	2
MCPA	thifensulfuron	Harmony	2
	halosulfuron	Permit	2
MCPA	thifensulfuron	Harmony	2
	s-metolachlor	Dual Magnum	15
MCPA	fomesafen	Reflex	14
	rimsulfuron	Resolve	2
MCPA	isoxaflutole	Balance	27
	desmedipham	Betalex	5
MCPA	phenmedipham	-----	5
	ethofumesate	Nortron	16
MCPA	dicamba	Clarity	4
	fluroxypyr	Starane	4
MCPA	halauxifen	Arylex	4
	florasulam	-----	2
MCPA	triasulfuron	Amber	2
	dicamba	Clarity	4
MCPA	flucarbazone	Everest	2
	fluroxypyr	Starane	4
MCPA	fluroxypyr	Starane	4
	rimsulfuron	Resolve	2
MCPA	mesotrione	Callisto	27
	cyhalofop	Clincher	1
MCPA	penoxsulam	Grasp	2
	clopyralid	Stinger	4
MCPA	acetochlor	Surpass NXT	15
	mesotrione	Callisto	27
MCPA	rimsulfuron	Resolve	2
	thifensulfuron	Harmony	2
MCPA	nicolsulfuron	Accent Q	2
	mesotrione	Callisto	27
MCPA	propoxycarbazone	Olympus	2
	mesosulfuron	Osprey	2
MCPA	dicamba	XtendiMax	4
	glyphosate	glyphosate	9
MCPA	flumioxazin	Valor	14
	chlorimuron	Classic	2
MCPA	thifensulfuron	Harmony	2
	fluroxypyr	Starane	4
MCPA	s-metolachlor	Dual Magnum	15
	glyphosate	glyphosate	9
MCPA	flumioxazin	Valor	14
	chlorsulfuron	Classic	2
MCPA	thifensulfuron	Harmony	2
	benzazon	Basagran	6
MCPA	acifluorfen	Ultra Blazer	14
	fluroxypyr	Starane	4
MCPA	thifensulfuron	Harmony	2
	tribenuron	Express	2
MCPA	prometryn	Caporal	5
	trifloxysulfuron	Envoke	2
MCPA	acetochlor	Surpass NXT	15
	clopyralid	Stinger	4
MCPA	flumetsulam	Python	4
	flumioxazin	Valor	14
MCPA	cloransulam	FirstRate	2
	chlorsulfuron	Classic	2
MCPA	thifensulfuron	Harmony	2
	thifensulfuron	Harmony	2
MCPA	flumioxazin	Valor	14
	bicyclopyrone	-----	27
MCPA	thifensulfuron	Harmony	2
	fluroxypyr	Starane	4
MCPA	thifensulfuron	Harmony	2
	acetochlor	Harness	15
MCPA	clopyralid	Stinger	4
	flumetsulam	Python	4
MCPA	chlorsulfuron	Classic	2
	flumioxazin	Valor	14
MCPA	flumioxazin	Valor	14
	chlorsulfuron	Classic	2
MCPA	imazamox	Raptor	2
	benzazon	Basagran	6
MCPA	hexazinone	Velpar	5
	diuron	Karmex	7
MCPA	saflufenacil	Sharpen	14
	dimethenamid-P	Outlook	15
MCPA	fomesafen	Reflex	14
	acetochlor	Warrant	15
MCPA	MCPA	MCPA	4
	fluroxypyr	Starane	4
MCPA	clopyralid	Stinger	4