Corn and Soybean Herbicide Chart

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 herbicides with different sites of action to delay the development of herbicide resistance.

The Site of Action Group is a classification system developed by the Weed Science Society of America.

Site of Action Group	Site of Action	Number of resistant weed species in U.S.	Chemical Family	Active Ingredient	Product Examples (*Trade Name* ®)
Lipid Synthesis Inhibitors					
1	**ACCase Inhibitors** (acetyl CoA carboxylase)	15	Aryloxyphenoxy propionate	fenoxaprop fluazifop quizalofop	component of ***Fusion*** ***Fusilade DX*** ***Assure II, Targa***
			Cyclohexanedione	clethodim sethoxydim	***Select, Arrow*** ***Poast, Poast Plus***
Amino Acid Synthesis Inhibitors					
2	**ALS Inhibitors** (acetolactate synthase)	44	Sulfonylurea	chlorimuron foramsulfuron halosulfuron iodosulfuron nicosulfuron primisulfuron prosulfuron rimsulfuron thifensulfuron tribenuron	***Classic*** ***Option*** ***Permit*** ***Autumn*** ***Accent Q*** ***Beacon*** ***Peak*** ***Resolve*** ***Harmony*** ***Express***
			Imidazolinone	imazamox imazaquin imazethapyr	***Raptor*** ***Scepter*** ***Pursuit***
			Triazoloyrimidine	flumetsulam cloransulam	***Python*** ***FirstRate***
			Triazolinones	thiencarbazone	component of ***Capreno***
9	**EPSP Synthase Inhibitor** (5-enolpyruvyl-shikimate-3-phosphate)	13	None accepted	glyphosate	***Roundup, Touchdown,*** others
Growth Regulators (Synthetic auxins)					
4	**Specific site unknown**	10	Phenoxy	2,4-D	***Weedone***, others
			Benzoic acid	dicamba	***Banvel, Clarity***, others
			Carboxylic acid	clopyralid fluroxypyr	***Stinger*** ***Starane***
19	**Auxin Transport**	0	Semicarbazone	diflufenzopyr	component of ***Status***
Photo-synthesis Inhibitors					
5	**Photosystem II Inhibitors** (different binding than 6 & 7)	24	Triazine	atrazine simazine	***AAtrex***, others ***Princep***
			Triazinone	metribuzin	***Sencor***, others
6	**Photosystem II Inhibitors** (different binding than 5 & 7)	1	Nitrile	bromoxynil	***Buctril, Moxy***
			Benzothiadiazole	bentazon	***Basagran***
7	**Photosystem II Inhibitors** (different binding than 5 & 6)	7	Ureas	linuron	***Lorox, Linex***
Nitrogen Metabolism					
10	**Glutamine Synthesis Inhibitor**		None accepted	glufosinate	***Liberty***
Pigment Inhibitors					
13	**Diterpene Synthesis Inhibitor**	1	Isoxazolidinone	clomazone	***Command***
27	**HPPD Inhibitors**	1	Isoxazole	isoxaflutole	***Balance Flexx***
			Pyrazolone	topramezone	***Impact, Armezon***
			Triketone	mesotrione tembotrione	***Callisto*** ***Laudis***
Cell Membrane Disrupters					
14	**PPO Inhibitors**	2	Diphenylether	acifluorfen fomesafen lactofen	***Ultra Blazer*** ***Flexstar, Reflex***, others ***Cobra, Phoenix***
			N-phenylphthalimide	flumiclorac flumioxazin	***Resource*** ***Valor***
			Aryl triazinone	sulfentrazone carfentrazone fluthiacet-ethyl	***Spartan*** ***Aim*** ***Cadet***
			Pyrimidinedione	saflufenacil	***Sharpen***
22	**Photosystem I Electron Diverter**	5	Bipyridilium	paraquat	***Gramoxone Inteon***
Seedling Root Growth Inhibitors					
3	**Microtubule Inhibitors**	6	Dinitroaniline	ethalfluralin pendimethalin trifluralin	***Sonalan*** ***Prowl H_2O***, others ***Treflan***, others
Seedling Shoot Growth Inhibitors					
8	**Lipid Synthesis Inhibitors** (not ACCase)	5	Thiocarbamate	butylate EPTC	***Sutan +*** ***Eradicane***
15	**Long-chain Fatty Acid Inhibitor**	1	Chloroacetamide	acetochlor	***Degree***, ***Harness, Surpass, Warrant***, others
				alachlor metolachlor dimethenamid	***Intrro, Micro-Tech*** ***Dual II Magnum***, others ***Outlook***
			Oxyacetamide	flufenacet	***Define***
			Pyrazole	pyroxasulfone	***Zidua***

** indicates product is not registered for use at the time of printing. Check for a label and MSDS at www.cdms.net to confirm status.*

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 **Mode of Action** chart on the left for more information.

Premix Trade Name ®	Component: *Trade Name* ®	Component: Active Ingredient	Site of Action Group
Anthem	***Zidua***	pyroxasulfone	15
	Cadet	fluthiacet-ethyl	14
Autority Assist	***Spartan***	sulfentrazone	14
	Pursuit	imazethapyr	2
Authority First	***Spartan***	sulfentrazone	14
	FirstRate	cloransulam	2
Autority MTZ	***Spartan***	sulfentrazone	14
	Sencor	metribuzin	5
Authority XL	***Spartan***	sulfentrazone	14
	Classic	chlorimuron	2
Autumn Super	***Autumn***	iodosulfuron	2
	-------	thiencarbazone	2
Basis Blend	***Resolve***	rimsulfuron	2
	Harmony	thifensulfuron	2
Bicep II Magnum (Bicep Lite II Mag)	***Dual II Magnum***	s-metolachlor	15
	AAtrex	atrazine	5
Boundary	***Dual Magnum***	s-metolachlor	15
	Sencor	metribuzin	5
Breakfree ATZ (Breakfree ATZ Lite)	***Breakfree***	acetochlor	15
	AAtrex	atrazine	5
Bullet	***Micro-Tech***	alachlor	15
	AAtrex	atrazine	5
Callisto Xtra	***Callisto***	mesotrione	27
	AAtrex	atrazine	5
Canopy	***Classic***	chlorimuron	2
	Sencor	metribuzin	5
Canopy EX	***Classic***	chlorimuron	2
	Express	tribenuron	2
Capreno	-------	thiencarbazone	2
	Laudis	tembotrione	27
Cinch ATZ (Cinch ATZ Lite)	***Dual II Magnum***	s-metolachlor	15
	AAtrex	atrazine	5
Corvus	-------	thiencarbazone	2
	Balance Flexx	isoxaflutole	27
Degree Xtra	***Degree***	acetochlor	15
	AAtrex	atrazine	5
Enlite	***Classic***	chlorimuron	2
	Harmony	thifensulfuron	2
	Valor	flumioxazin	14
Envive	***Classic***	chlorimuron	2
	Harmony	thifensulfuron	2
	Valor	flumioxazin	14
Expert	***Dual II Magnum***	s-metolachlor	15
	AAtrex	atrazine	5
	glyphosate	glyphosate	9
Exteme	***Pursuit***	imazethapyr	2
	glyphosate	glyphosate	9
Fierce	***Valor***	flumioxazin	14
	Zidua	pyroxasulfone	15
Fierce XLT*	***Valor***	flumioxazin	14
	Zidua	pyroxasulfone	15
	Classic	chlorimuron	2
Flexstar GT	***Flexstar***	fomesafen	14
	glyphosate	glyphosate	9
Fusion	***Fusilade DX***	fluazifop	1
	Puma	fenoxaprop	1
Gangster	***Valor***	flumioxazin	14
	FirstRate	cloransulam	2
Guardsman Max (G-Max Lite)	***Outlook***	dimethenamid-P	15
	AAtrex	atrazine	5
Halex GT	***Dual Magnum***	s-metolachlor	15
	Callisto	mesotrione	27
	glyphosate	glyphosate	9
Harness Xtra	***Harness***	acetochlor	15
	AAtrex	atrazine	5
Hornet	***Stinger***	clopyralid	4
	Python	flumetsulam	2
Instigate	***Resolve***	rimsulfuron	2
	Callisto	mesotrione	27
Keystone (Keystone LA)	***Surpass***	acetochlor	15
	AAtrex	atrazine	5
Lexar EZ	***Callisto***	mesotrione	27
	Dual II Magnum	s-metolachlor	15
	AAtrex	atrazine	5
Lumax EZ	***Callisto***	mesotrione	27
	Dual II Magnum	s-metolachlor	15
	AAtrex	atrazine	5
Marksman	***Clarity***	dicamba	4
	AAtrex	atrazine	5
NorthStar	***Beacon***	primisulfuron	2
	Clarity	dicamba	4
Optill	***Sharpen***	saflufenacil	14
	Pursuit	imazethapyr	2
Permit Plus	***Harmony***	thifensulfuron	2
	Permit	halosulfuron	2
Priority	***Aim***	carfentrazone	14
	Permit	halosulfuron	2
Prefix	***Dual Magnum***	s-metolachlor	15
	Reflex	fomesafen	14
Prequel	***Resolve***	rimsulfuron	2
	Balance Flexx	isoxaflutole	27
Pursuit Plus	***Pursuit***	imazethapyr	2
	Prowl	pendimethalin	3
Realm Q	***Resolve***	rimsulfuron	2
	Callisto	mesotrione	27
Resolve Q	***Resolve***	rimsulfuron	2
	Harmony	thifensulfuron	2
Require Q	***Resolve***	rimsulfuron	2
	Clarity	dicamba	4
Rezult	***Basagran***	bentazon	6
	Poast	sethoxydim	1
Sequence	***Dual Magnum***	s-metolachlor	15
	glyphosate	glyphosate	9
Shotgun	***AAtrex***	atrazine	5
	-------	2,4-D	4
Sonic	***Spartan***	sulfentrazone	14
	FirstRate	cloransulam	2
Spartan Charge	***Spartan***	sulfentrazone	14
	Aim	carfentrazone	14
Spirit	***Peak***	prosulfuron	2
	Beacon	primisulfuron	2
Status	-------	diflufenzopyr	19
	Clarity	dicamba	4
Steadfast Q	***Accent Q***	nicosulfuron	2
	Resolve	rimsulfuron	2
SureStart	***Surpass***	acetochlor	15
	Stinger	clopyralid	4
	Python	flumetsulam	2
Synchrony	***Classic***	chlorimuron	2
	Harmony	thifensulfuron	2
TripleFLEX	***Harness***	acetochlor	15
	Stinger	clopyralid	4
	Python	flumetsulam	2
Valor XLT	***Valor***	flumioxazin	14
	Classic	chlorimuron	2
Verdict	***Sharpen***	saflufenacil	14
	Outlook	dimethenamid-P	15
Widematch	***Stinger***	clopyralid	4
	Starane	fluroxypyr	4
Yukon	***Banvel***	dicamba	4
	Permit	halosulfuron	2
Zemax	***Callisto***	mesotrione	27
	Dual II Magnum	s-metolachlor	15

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