

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.

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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.

	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)	38	Sulfonylurea	chlorimuron foramsulfuron halosulfuron iodosulfuron nicosulfuron	Classic Option Permit Autumn Accent

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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 for more information.

Premix Trade Name ®	Trade Name ®	Component Active Ingredient	Site of Action Group*
Authority First	Spartan FirstRate	sulfentrazone cloransulam	14 2
Axiom	Define Sencor	flufenacet metribuzin	15 5
Basis	Resolve Harmony GT	rimsulfuron thifensulfuron	2 2
Bicep II Magnum	Dual II Magnum AAtrex	s-metolachlor atrazine	15 5
Bicep Lite II Magnum....	Dual II Magnum AAtrex	s-metolachlor atrazine	15 5
Boundary	Dual Magnum Sencor	s-metolachlor metribuzin	15 5
Breakfree ATZ.....	Breakfree	acetochlor atrazine	15 5
Breakfree ATZ Lite	Breakfree	acetochlor atrazine	15 5
Buctril + Atrazine	Buctril	bromoxynil atrazine	6 5
Bullet	Micro-Tech	alachlor atrazine	15 5
Camix	Callisto Dual II Magnum	mesotrione s-metolachlor	28 15
Canopy DF	Classic Sencor	chlorimuron metribuzin	2 5
Canopy EX	Classic Express	chlorimuron tribenuron	2 2
Celebrity Plus	diflufenzopyr Clarity Accent	diflufenzopyr dicamba nicosulfuron	19 4 2
Cinch ATZ	Dual II Magnum AAtrex	s-metolachlor atrazine	15 5
Cinch ATZ Lite	Dual II Magnum AAtrex	s-metolachlor atrazine	15 5

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Amino Acid Synthesis Inhibitors

9	EPSP Synthase Inhibitor (5-enolpyruvyl-shikimate-3-phosphate)	7	None accepted	glyphosate	Roundup, Touchdown, others
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4	Specific site unknown	7	Phenoxy	2,4-D	Weedone, others
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			Benzoic acid	dicamba	Banvel, Clarity
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19	Auxin Transport	0	Semicarbazone	diflufenzopyr	component of Distinct
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5	Photosystem II Inhibitors (different binding than 6 & 7)	22	Triazine	atrazine simazine metribuzin	AAtrex, others Princep Sencor
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6	Photosystem II Inhibitors (different binding than 5 & 7)	1	Nitrile	bromoxynil	Buctril, others
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7	Photosystem II Inhibitors (different binding than 5 & 6)	7	Benzothiadiazole	bentazon	Basagran
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10	Glutamine Synthase Inhibitor	0	None accepted	glufosinate	Liberty
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13	Diterpene Synthase Inhibitor	0	Isoxazolidinone	clomazone	Command
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Growth Regulators (Synthetic auxins)

Photo-synthesis Inhibitors

Nitrogen Metabolism

Pigment Inhibitors

primisulfuron
prosulfuron
rimsulfuron
thifensulfuron
tribenuron

Beacon
component of **Spirit**
Resolve
Harmony GT
Express

Raptor
Scepter
Pursuit

Python
FirstRate

Roundup, Touchdown, others

Weedone, others

Banvel, Clarity

Stinger
Starane

component of **Distinct**

AAtrex, others
Princep
Sencor















































Buctril, others

Basagran

Lorox, Linex

Liberty

Command

Degree Xtra	Degree	acetochlor	15	
	atrazine	atrazine	5	
Distinct	diflufenzopyr	diflufenzopyr	19	
	Clarity	dicamba	4	
Domain	Define	flufenacet	15	
	Sencor	metribuzin	5	
Equip	Option	foramsulfuron	2	
	Autumn	iodosulfuron	2	
Expert	Dual II Magnum	s-metolachlor	15	
	AAtrex	atrazine	5	
	glyphosate	glyphosate	9	
Exteme	Pursuit	imazethapyr	2	
	glyphosate	glyphosate	9	
Field Master	Harness	acetochlor	15	
	atrazine	atrazine	5	
	glyphosate	glyphosate	9	
FulTime	TopNotch	acetochlor	15	
	atrazine	atrazine	5	
Fusion	Fusilade DX	fluazifop	1	
	Puma	fenoxaprop	1	
Gangster	Valor	flumioxazin	14	
	FirstRate	cloransulam	2	
G-Max Lite	Outlook	dimethenamid-P	15	
	atrazine	atrazine	5	
Guardsman Max	Outlook	dimethenamid-P	15	
	atrazine	atrazine	5	
Harness Xtra	Harness	acetochlor	15	
	atrazine	atrazine	5	
Hornet	Stinger	clopyralid	4	
	Python	flumetsulam	2	
Keystone	Surpass	acetochlor	15	
	atrazine	atrazine	5	
Keystone LA	Surpass	acetochlor	15	
	atrazine	atrazine	5	
Laddok	Basagran	bentazon	6	
	atrazine	atrazine	5	
Lexar	Callisto	mesotrione	28	
	Dual II Magnum	s-metolachlor	15	
	AAtrex	atrazine	5	
Lightning	Pursuit	imazethapyr	2	
	Arsenal	imazapyr	2	
Lumax	Callisto	mesotrione	28	
	Dual II Magnum	s-metolachlor	15	
	Aatrex	atrazine	5	
Marksman	Banvel	dicamba	4	
	atrazine	atrazine	5	

Pigment Inhibitors

28

HPPD Inhibitors

0

Isoxazole	isoxaflutole	Balance Pro
Triketone	mesotrione tembotrione tropamezone	Callisto Laudis Impact

14

PPO Inhibitors

2

Diphenylether	acifluorfen fomesafen lactofen	Ultra Blazer Flexstar, Reflex Cobra, Phoenix
N-phenylphthalimide	flumiclorac flumioxazin	Resource Valor SX
Aryl triazinone	sulfentrazone carfentrazone	Spartan Aim

22

Photosystem I Electron Diverter

4

Bipyridilium	paraquat	Gramoxone Inteon
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3

Microtubule Inhibitors

6

Dinitroaniline	ethalfuralin pendimethalin trifluralin	Sonalan Prowl, others Treflan, others
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8

Lipid Synthesis Inhibitors (not ACCase)

5

Thiocarbamate	butylate EPTC	Sutan + Eradicane
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15

Long-chain Fatty Acid Inhibitor

1

Chloroacetamide	acetochlor alachlor metolachlor dimethenamid	Harness, TopNotch, Degree, others Intro, Micro-Tech Dual II Magnum, others Outlook, Propel
Oxyacetamide	flufenacet	Define

Cell Membrane Disrupters

Seedling Root Growth Inhibitors

Seedling Shoot Growth Inhibitors

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

NorthStar	Beacon Clarity	primisulfuron dicamba	2 4	
Parallel Plus.....	Parallel	metolachlor atrazine	15 5	
Priority	Aim Permit	carfentrazone halosulfuron	14 2	
Prefix	Dual Magnum Reflex	s-metolachlor fomesafen	15 14	
Pursuit Plus	Pursuit Prowl	imazethapyr pendimethalin	2 3	
Radius	Define Balance Pro	flufenacet isoxaflutole	15 28	
Sequence	Dual Magnum	s-metolachlor glyphosate	15	
Shotgun	Salvo	glyphosate atrazine	9 5	
Sonic.....	Spartan FirstRate	2,4-D sulfentrazone	4 14	
Spirit	Peak Beacon	cloransulam prosulfuron	2 2	
Stalwart Xtra	Stalwart C	primisulfuron metolachlor	2 15	
Status	Clarity	atrazine diflufenzopyr	5 19	
Steadfast	Accent Resolve	dicamba nicosulfuron	4 2	
Steadfast ATZ	Accent Resolve	rimsulfuron nicosulfuron	2 2	
Stout	Accent Harmony GT	rimsulfuron atrazine	2 5	
SureStart	Surpass Stinger Python	nicosulfuron thifensulfuron acetochlor	2 2 15	
Synchrony	Classic Harmony GT	clopyralid flumetsulam	4 2	
Valor XLT	Valor Classic	chlorimuron thifensulfuron	2 2	
Valor ATZ.....	Valor	flumioxazin chlorimuron	14 2	
Volley ATZ.....	Volley	acetochlor atrazine	15 5	
Volley ATZ Lite.....	Volley	acetochlor atrazine	15 5	
Yukon.....	Banvel Permit	dicamba halosulfuron	4 2	

Glyphosate, Weeds, and Crop Series

GWC-3

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