

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	sulfentrazone	14
	FirstRate	cloransulam	2
Axiom	Define	flufenacet	15
	Sencor	metribuzin	5
Basis	Resolve	rimsulfuron	2
	Harmony GT	thifensulfuron	2
Bicep II Magnum	Dual II Magnum	s-metolachlor	15
	AAtrex	atrazine	5
Bicep Lite II Magnum....	Dual II Magnum	s-metolachlor	15
	AAtrex	atrazine	5
Boundary.....	Dual Magnum	s-metolachlor	15
	Sencor	metribuzin	5
Breakfree ATZ.....	Breakfree	acetochlor	15
		atrazine	5
Breakfree ATZ Lite.....	Breakfree	acetochlor	15
		atrazine	5
Buctril + Atrazine	Buctril	bromoxynil	6
		atrazine	5
Bullet	Micro-Tech	alachlor	15
		atrazine	5
Camix	Callisto	mesotrione	28
	Dual II Magnum	s-metolachlor	15
Canopy DF	Classic	chlorimuron	2
	Sencor	metribuzin	5
Canopy EX	Classic	chlorimuron	2
	Express	tribenuron	2
Celebrity Plus		diflufenzopyr	19
	Clarity	dicamba	4
	Accent	nicosulfuron	2
Cinch ATZ.....	Dual II Magnum	s-metolachlor	15
	AAtrex	atrazine	5
Cinch ATZ Lite	Dual II Magnum	s-metolachlor	15
	AAtrex	atrazine	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
				Imidazolinone	imazamox imazaquin imazethapyr

4	Specific site unknown	7	Phenoxy	2,4-D	Weedone, others
			Benzoic acid	dicamba	Banvel, Clarity
			Carboxylic acid	clopyralid fluroxypyr	Stinger Starane

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
			Triazinone		

6	Photosystem II Inhibitors (different binding than 5 & 7)	1	Nitrile	bromoxynil	Buctril, others
7	Photosystem II Inhibitors (different binding than 5 & 6)	7	Benzothiadiazole	bentazon	Basagran
			Ureas	linuron	Lorox, Linex

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 Resolve Harmony GT Express
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imazamox imazaquin imazethapyr	Raptor Scepter Pursuit
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flumetsulam cloransulam	Python FirstRate
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glyphosate	Roundup, Touchdown, others
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2,4-D	Weedone, others
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dicamba	Banvel, Clarity
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clopyralid fluroxypyr	Stinger Starane
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diflufenzopyr	component of Distinct
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atrazine simazine metribuzin	AAtrex, others Princep Sencor
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bromoxynil	Buctril, others
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bentazon	Basagran
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linuron	Lorox, Linex
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glufosinate	Liberty
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clomazone	Command
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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
 Triketone mesotrione, tembotrione, tropamezone

Balance Pro
Callisto
Laudis
Impact

14

PPO Inhibitors

2

Diphenylether acifluorfen, fomesafen, lactofen
 N-phenylphthalimide flumiclorac, flumioxazin
 Aryl triazinone sulfentrazone, carfentrazone

Ultra Blazer
Flexstar, Reflex
Cobra, Phoenix

Resource
Valor SX

Spartan
Aim

22

Photosystem I Electron Diverter

4

Bipyridilium paraquat

Gramoxone Inteon

3

Microtubule Inhibitors

6

Dinitroaniline ethalfluralin, pendimethalin, trifluralin

Sonalan
Prowl, others
Treflan, others

8

Lipid Synthesis Inhibitors (not ACCase)

5

Thiocarbamate butylate, EPTC

Sutan + Eradicane

15

Long-chain Fatty Acid Inhibitor

1

Chloroacetamide acetochlor, alachlor, metolachlor, dimethenamid
 Oxyacetamide flufenacet

Harness, TopNotch, Degree, others
Intro, Micro-Tech
Dual II Magnum, others
Outlook, Propel

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

Glyphosate, Weeds, and Crop Series

GWC-3

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