

# 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 <b>Fusion</b> <b>Fusilade DX</b> <b>Assure II, Targa</b>
				Cyclohexanedione	clethodim sethoxydim	<b>Select, Arrow</b> <b>Poast, Poast Plus</b>
Amino Acid Synthesis Inhibitors	2	ALS Inhibitors (acetolactate synthase)	38	Sulfonylurea	chlorimuron foramsulfuron halosulfuron iodosulfuron nicosulfuron	<b>Classic</b> <b>Option</b> <b>Permit</b> <b>Autumn</b> <b>Accent</b>

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

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## Amino Acid Synthesis Inhibitors

<b>9</b>	<b>EPSP Synthase Inhibitor</b> (5-enolpyruvyl-shikimate-3-phosphate)	<b>7</b>	None accepted	glyphosate	<b>Roundup, Touchdown, others</b>
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<b>4</b>	<b>Specific site unknown</b>	<b>7</b>	Phenoxy	2,4-D	<b>Weedone, others</b>
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			Benzoic acid	dicamba	<b>Banvel, Clarity</b>
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<b>19</b>	<b>Auxin Transport</b>	<b>0</b>	Semicarbazone	diflufenzopyr	component of <b>Distinct</b>
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<b>5</b>	<b>Photosystem II Inhibitors</b> (different binding than 6 & 7)	<b>22</b>	Triazine	atrazine simazine metribuzin	<b>AAtrex, others</b> <b>Princep</b> <b>Sencor</b>
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<b>6</b>	<b>Photosystem II Inhibitors</b> (different binding than 5 & 7)	<b>1</b>	Nitrile	bromoxynil	<b>Buctril, others</b>
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<b>7</b>	<b>Photosystem II Inhibitors</b> (different binding than 5 & 6)	<b>7</b>	Benzothiadiazole	bentazon	<b>Basagran</b>
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<b>10</b>	<b>Glutamine Synthase Inhibitor</b>	<b>0</b>	None accepted	glufosinate	<b>Liberty</b>
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<b>13</b>	<b>Diterpene Synthase Inhibitor</b>	<b>0</b>	Isoxazolidinone	clomazone	<b>Command</b>
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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 .....	<b>Degree</b>	acetochlor	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
Distinct .....	diflufenzopyr	diflufenzopyr	<b>19</b>	
	<b>Clarity</b>	dicamba	<b>4</b>	
Domain .....	<b>Define</b>	flufenacet	<b>15</b>	
	<b>Sencor</b>	metribuzin	<b>5</b>	
Equip .....	<b>Option</b>	foramsulfuron	<b>2</b>	
	<b>Autumn</b>	iodosulfuron	<b>2</b>	
Expert .....	<b>Dual II Magnum</b>	s-metolachlor	<b>15</b>	
	<b>AAtrex</b>	atrazine	<b>5</b>	
	glyphosate	glyphosate	<b>9</b>	
Exteme .....	<b>Pursuit</b>	imazethapyr	<b>2</b>	
	glyphosate	glyphosate	<b>9</b>	
Field Master .....	<b>Harness</b>	acetochlor	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
	glyphosate	glyphosate	<b>9</b>	
FulTime .....	<b>TopNotch</b>	acetochlor	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
Fusion .....	<b>Fusilade DX</b>	fluazifop	<b>1</b>	
	<b>Puma</b>	fenoxaprop	<b>1</b>	
Gangster .....	<b>Valor</b>	flumioxazin	<b>14</b>	
	<b>FirstRate</b>	cloransulam	<b>2</b>	
G-Max Lite .....	<b>Outlook</b>	dimethenamid-P	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
Guardsman Max .....	<b>Outlook</b>	dimethenamid-P	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
Harness Xtra .....	<b>Harness</b>	acetochlor	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
Hornet .....	<b>Stinger</b>	clopyralid	<b>4</b>	
	<b>Python</b>	flumetsulam	<b>2</b>	
Keystone .....	<b>Surpass</b>	acetochlor	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
Keystone LA .....	<b>Surpass</b>	acetochlor	<b>15</b>	
	atrazine	atrazine	<b>5</b>	
Laddok .....	<b>Basagran</b>	bentazon	<b>6</b>	
	atrazine	atrazine	<b>5</b>	
Lexar .....	<b>Callisto</b>	mesotrione	<b>28</b>	
	<b>Dual II Magnum</b>	s-metolachlor	<b>15</b>	
	<b>AAtrex</b>	atrazine	<b>5</b>	
Lightning .....	<b>Pursuit</b>	imazethapyr	<b>2</b>	
	<b>Arsenal</b>	imazapyr	<b>2</b>	
Lumax .....	<b>Callisto</b>	mesotrione	<b>28</b>	
	<b>Dual II Magnum</b>	s-metolachlor	<b>15</b>	
	<b>Aatrex</b>	atrazine	<b>5</b>	
Marksman .....	<b>Banvel</b>	dicamba	<b>4</b>	
	atrazine	atrazine	<b>5</b>	

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

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