

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†.

Site of Action Group*	Site of Action	Chemical Family	Active Ingredient	Product Examples (Trade Name®)
1 Lipid Synthesis Inhibitors	ACCase Inhibitors	Aryloxyphenoxy propaionoate	fenoxaprop-p-ethyl fluzafop-p-butyl quizalofop-p-ethyl	<i>Excel Super</i> <i>Venture</i> <i>Assure II</i>
		Cyclohexanedione	clethodim sethoxydim	<i>Select</i> <i>Poast</i>
2 Amino Acid Synthesis Inhibitors	ALS Inhibitors	Sulfonylurea	chlorimuron foramsulfuron	<i>Classic Option</i> , component of <i>Option 1.2.3.**</i>
			nicosulfuron primisulfuron prosulfuron rimsulfuron	component of <i>Summit</i> component of <i>PeakPlus</i> component of <i>Battalion</i> , component of <i>Galaxy Pinnacle</i>
		Imidazolinone	imazamox	component of <i>Meridian Plus</i> , component of <i>Viper Pursuit</i>
			imazethapyr	
Triazolopyrimidine	flumetsulam	component of <i>Broadstrike Dual Magnum</i> <i>FirstRate</i>		
	cloransulam			
9	EPSP Synthase Inhibitor	None accepted	glyphosate	<i>Roundup</i> , <i>Touchdown</i> , others
4 Growth Regulators (Synthetic auxins)	Specific site unknown	Phenoxy	2,4-D 2,4-DB	numerous <i>Caliber</i> , <i>Cobutox</i> , <i>Embutox</i>
			MCPA	numerous
		Benzoic Acid	dicamba	<i>Banvel II</i> , <i>Oracle</i>
19	Auxin Transport	Semicarbazone	diflufenzopyr	component of <i>Distinct</i>
5 Photosynthesis Inhibitors	Photosystem II Inhibitors (different binding than 6&7)	Triazine	atrazine	<i>AAtrex</i> , others
			simazine	<i>Princep</i> , <i>Simadex</i>
		Triazinone	metribuzin	<i>Sencor</i>
6 Photosynthesis Inhibitors	Photosystem II Inhibitors (different binding than 5&7)	Nitrile	bromoxynil	<i>Pardner</i> , <i>Koril</i>
		Benzothiadiazine	bentazon	<i>Basagran Forté</i>
7	Photosystem II Inhibitors (different binding than 5&6)	phenylu	linuron	<i>Lorox L</i>
10 Nitrogen Metabolism	Glutamine Synthesis Inhibitor	None accepted	glufosinate	<i>Liberty</i>
13 Pigment Inhibitors	Diterpene Synthesis Inhibitor	Isoxazolidinone	clomazone	<i>Command</i>
			isoxaflutole mesotrione tropicamezone	<i>Converge Pro</i> <i>Callisto</i> <i>Impact</i>
14 Cell Membrane Disrupters	PPO Inhibitors	Diphenylether	acifluorfen fomesafen	<i>Blazer</i> <i>Reflex</i>
			Aryl triazolinone	carfentrazone-ethyl
22	Photosystem I Electron Diverter	Bipyridilium	paraquat	<i>Gramoxone</i>
3 Seedling Root Growth Inhibitors	Microtubule Inhibitors	Dinitroaniline	pendimethalin trifluralin	<i>Prowl</i> <i>Treflan</i> , <i>Rival</i> , <i>Bonanza</i>
8 Seedling Shoot Growth Inhibitors	Lipid Synthesis Inhibitors	Thiocarbamate	EPTC	<i>Eradicane</i>
		Chloroacetamide	s-metolachlor/benoxacor dimethenamid	<i>Dual II Magnum</i> <i>Frontier</i>
	Oxyacetamide		flufenacet	component of <i>Option 1.2.3.**</i>

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*
Accent 1- Pass	<i>Accent Peak Banvel II</i>	nicosulfuron	2
		prosulfuron	2
		dicamba	4
Accent Total	<i>Accent Distinct</i>	nicosulfuron	2
		dicamba	4
		diflufenzopyr	19
Badge		MCPA	4
		bromoxynil	6
Battalion	<i>Elim EP Dual II Magnum</i>	rimsulfuron	2
		s-metolachlor/ benoxacor	15
	<i>Banvel II</i>	dicamba	4
Boundary	<i>Dual II Magnum</i>	s-metolachlor/ benoxacor	15
		<i>Sencor</i>	5
Broadstrike Dual Magnum		flumetsulam	2
		s-metolachlor/ benoxacor	15
Buctril M		MCPA	4
		bromoxynil	6
Cleansweep	<i>Pursuit Basagran Forté</i>	imazethapyr	2
		bentazon	6
Conquest	<i>Pursuit Sencor</i>	imazethapyr	2
		metribuzin	5
Converge Pro	<i>Converge 480 Converge Pro</i>	atrazine	5
		isoxaflutole	27
Distinct		dicamba	4
		diflufenzopyr	19
Galaxy	<i>Elim EP Roundup Weathermax</i>	rimsulfuron	2
		glyphosate	9
Guardian	<i>Classic Touchdown iQ</i>	chlorimuron-ethyl	2
		glyphosate	9
Laddok		atrazine	5
		bentazon	6
Logic M		MCPA	4
		bromoxynil	6
Marksman		dicamba	4
		atrazine	5
Meridian Plus	<i>Meridian Basagran Forté</i>	imazamox	2
		bentazon	6
Mextrol		MCPA	4
		bromoxynil	6
Option 1.2.3.**	<i>Option Define</i>	foramsulfuron	2
		flufenacet	15
PeakPlus	<i>Peak Banvel II</i>	prosulfuron	2
		dicamba	4
Primextra II Magnum		atrazine	5
		s-metolachlor/ benoxacor	15
Shotgun		2,4-D	4
		atrazine	5
Summit		primisulfuron	2
		dicamba	4
Ultim		nicosulfuron	2
		rimsulfuron	2
Ultim Total	<i>Ultim Distinct</i>	nicosulfuron/ rimsulfuron	2
		dicamba	4
		diflufenzopyr	19
Valor	<i>Pursuit Prowl</i>	imazethapyr	2
		pendimethalin	3
Viper	<i>Viper Reflex</i>	imazamox	2
		fomesafen	14

www.plant.uoguelph.ca/resistant-weeds

†The most effective herbicide programs for resistance management are those that have multiple sites of action which are effective on every susceptible weed species listed on the product label.

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

**Option 1.2.3. must be tank mixed with atrazine (sold separately).