

# QUICK HERBICIDE REFERENCE GUIDE 2024

This factsheet represents herbicides registered on sunflower and available as of April 2024. This list is prone to changes and it is recommended to always refer to [Manitoba's Guide to Field Crop Protection](#) and herbicide labels before in-field applications. Page numbers in the below tables are references to the Guide to Field Crop Protection.

\*Important pages to note in the Guide to Field Crop Protection 2024:

**Page 56, Table 8:** Herbicide Mode of Action and Chemical Family for Resistant Weed Management

**Page 62, Table 9:** Mode of Action, Site of Uptake and Symptoms of Different Herbicide Groups

**Page 63, Table 10:** Herbicide-Resistant Weeds in Western Canada

**Page 78, Table 14:** Weed Control in Sunflower

## Table 1: Fall-Applied Herbicides

Page	Herbicide	Active Ingredient	Group	Site of action	Chemical Family	Crop Staging/Timing	Weed Spectrum	
							Grassy Weeds	Broadleaf Weeds
217	<b>Eptam Liquid EC</b>	800 g/L EPTC	15	Very Long Chain Fatty Acid Inhibitor	Thiocarbamate	fall-applied or pre-plant incorporated	X	X
223	<b>Ethalfuralin</b>	10% ethalfuralin	3	Miotic Inhibitor	Dinitroaniline (DNA)	fall-applied or pre-plant incorporated	X	X
260	<b>Focus</b>	53 g/L carfentrazone-ethyl	14	PPO Inhibitor	Triazolinone	fall-applied, pre-plant or up to 3 days following planting	X	X
		447 g/L pyroxasulfone	15	PPO Inhibitor	Triazolinone			
477	<b>Trifluralin</b>	10% trifluralin 480 g/L trifluralin	3	Miotic Inhibitor	Dinitroaniline (DNA)	fall-applied or pre-plant incorporated (check label for crop restrictions)	X	X



**Table 2: Pre-Plant Herbicides**

Page	Herbicide	Active Ingredient	Group	Site of action	Chemical Family	Crop Staging/Timing	Weed Spectrum	
							Grassy Weeds	Broadleaf Weeds
121	<b>Authority 480</b>	480 g/L sulfentrazone	14	PPO Inhibitor	Triazolinone	pre-plant or up to 3 days following planting		X
123	<b>Authority Strike</b>	42 g/L carfentrazone-ethyl	14	PPO Inhibitor	Triazolinone	pre-plant, must be tank mixed with glyphosate or adjuvant		X
		380 g/L sulfentrazone	14	PPO Inhibitor	Triazolinone			
125	<b>Authority Supreme</b>	250 g/L sulfentrazone	14	PPO Inhibitor	Triazolinone	pre-plant or up to 3 days following planting	X	X
		250 g/L pyroxasulfone	15	Very Long Chain Fatty Acid Inhibitor	Chloroacetamide			
163	<b>Carfentrazone</b>	240 g/L carfentrazone-ethyl	14	PPO Inhibitor	Triazolinone	pre-plant		X
217	<b>Eptam Liquid EC</b>	800 g/L EPTC	15	Very Long Chain Fatty Acid Inhibitor	Thiocarbamate	fall-applied or pre-plant incorporated	X	X
223	<b>Ethalfuralin</b>	10% ethalfuralin	3	Miotic Inhibitor	Dinitroaniline (DNA)	fall-applied or pre-plant incorporated	X	X
260	<b>Focus</b>	53 g/L carfentrazone-ethyl	14	PPO Inhibitor	Triazolinone	fall-applied, pre-plant or up to 3 days following planting	X	X
		447 g/L pyroxasulfone	15	PPO Inhibitor	Triazolinone			
273	<b>Glyphosate</b>	360 - 540 g/L glyphosate	9	EPSP Synthase Inhibitor		pre-seed or pre-emergence	X	X
477	<b>Trifluralin</b>	10% trifluralin 480 g/L trifluralin	3	Miotic Inhibitor	Dinitroaniline (DNA)	fall-applied or pre-plant incorporated (check label for crop restrictions)	X	X
488	<b>Valtera</b>	479.2 g/L flumioxazin	14	PPO Inhibitor	N-Phenyl-imides	a minimum of 30 days prior to planting	X (GF only)	X
503	<b>Zidua SC</b>	500 g/L pyroxasulfone	15	Very Long Chain Fatty Acid Inhibitor	Chloroacetamide	pre-plant or pre-emergent	X	X



**Table 3: Pre-Emergent Herbicides**

Page	Herbicide	Active Ingredient	Group	Site of action	Chemical Family	Crop Staging/Timing	Weed Spectrum	
							Grassy Weeds	Broadleaf Weeds
121	<b>Authority 480</b>	480 g/L sulfentrazone	14	PPO Inhibitor	Triazolinone	pre-plant or up to 3 days following planting		X
125	<b>Authority Supreme</b>	250 g/L sulfentrazone	14	PPO Inhibitor	Triazolinone	pre-plant or up to 3 days following planting	X	X
		250 g/L pyroxasulfone	15	Very Long Chain Fatty Acid Inhibitor	Chloroacetamide			
260	<b>Focus</b>	53 g/L carfentrazone-ethyl	14	PPO Inhibitor	Triazolinone	fall-applied, pre-plant or up to 3 days following planting	X	X
		447 g/L pyroxasulfone	15	PPO Inhibitor	Triazolinone			
273	<b>Glyphosate</b>	360 - 540 g/L glyphosate	9	EPSP Synthase Inhibitor		pre-seed or pre-emergence	X	X
503	<b>Zidua SC</b>	500 g/L pyroxasulfone	15	Very Long Chain Fatty Acid Inhibitor	Chloroacetamide	pre-plant or pre-emergent	X	X

**Table 3: Post-Emergent Herbicides**

Page	Herbicide	Active Ingredient	Group	Site of action	Chemical Family	Crop Staging/Timing	Weed Spectrum	
							Grassy Weeds	Broadleaf Weeds
174	<b>Clethodim</b>	240 - 360 g/L clethodim	1	ACC-ase Inhibitor	Cyclohexanedione (Dim)	VE - V12	X	
471	<b>Express SG</b>	50% tribenuron-methyl	2	ALS Enzyme Inhibitor	Sulfonyurea (SU)	ExpressSun varieties only: V2 - V8		X
297	<b>Imazamox</b>	25 - 350 g/L imazamox	2	ALS Enzyme Inhibitor	Imidazolinone (Imi)	Clearfield sunflowers only: V2 - V8	X	X
302	<b>Imazamox/ imazethapyr</b>	35% imazamox + 35% imazethapyr	2	ALS Enzyme Inhibitor	Imidazolinone (Imi)	Clearfield sunflowers only: V2 - V8	X	X
305	<b>Imazamox/ quizalofop</b>	25g/L imazamox	2	ALS Enzyme Inhibitor	Imidazolinone (Imi)	Clearfield sunflowers only: V2 - V8	X	X
		96 g/L quizalofop-p-ethyl	1	ACC-ase Inhibitor	Aryloxyphenoxy propionic acid (Fop)			
345	<b>Muster</b>	75% ethametsulfuron-methyl	2	ALS Enzyme Inhibitor	Sulfonyurea (SU)	V2 - V8		X
377	<b>Poast Ultra</b>	450 g/L sethoxydim	1	ACC-ase Inhibitor	Cyclohexanedione (Dim)	prior to R1 (terminal bud formation)	X	
389	<b>Quizalofop</b>	96 g/L quizalofop-p-ethyl*	1	ACC-ase Inhibitor	Aryloxyphenoxy propionic acid (Fop)	VE - V8	X	

**\*NOTE:** Since application to sunflowers has been registered under the User Requested Minor Use program, the manufacturer assumes no responsibility for herbicide performance. Application is at the risk of the user.



### Table 5: Dessicant Herbicides

Page	Herbicide	Active Ingredient	Group	Site of action	Chemical Family	Crop Staging/Timing	Weed Spectrum	
							Grassy Weeds	Broadleaf Weeds
207	<b>Diquat</b>	200 - 240 g/L diquat	22	Photosystem I Inhibitor		backs of sunflower heads and bracts are turning yellow and seed moisture is 20 to 50%		
286	<b>Heat Brands</b>	70% saflufenacil (WG) or 342 g/L (LQ) saflufenacil	14	PPO Inhibitor	Pyrimidinedione	backs of sunflower heads and bracts are turning yellow and seed moisture if 20 to 30%		X

Figure 1: Late reproductive stages in sunflower and guidelines on desiccation timing. Credit: Manitoba Agriculture.



**R7** – Losses in yield, test weight, oil content and discoloured seed coats. Some seeds will be low test weight and unmarketable.

**R8** – Some reduction in yield bushel weight, oil content and discoloured seed coats. Most seeds will still be marketable.

**R9** – No damage will occur, at this stage a frost is needed to dry the plant for harvest.

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