

# QUICK HERBICIDE REFERENCE GUIDE

## 2025

This factsheet represents herbicides registered on sunflower and available as of April 2025. 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 2025:

**Page 60, Table 8:** [Herbicide Mode of Action and Chemical Family for Resistant Weed Management](#)

**Page 66, Table 9:** [Mode of Action, Site of Uptake and Symptoms of Different Herbicide Groups](#)

**Page 67, Table 10:** [Herbicide-Resistant Weeds in Western Canada](#)

**Page 83, 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
128	<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			
223	<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
229	<b>Ethalfluralin</b>	10% ethalfluralin	3	Miotic Inhibitor	Dinitroaniline (DNA)	fall-applied or pre-plant incorporated	X	X
269	<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			
495	<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
449	<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			
126	<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			
128	<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			
167	<b>Carfentrazone products</b>	240 g/L carfentrazone-ethyl	14	PPO Inhibitor	Triazolinone	pre-plant		X
223	<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
229	<b>Ethalfluralin</b>	10% ethalfluralin	3	Miotic Inhibitor	Dinitroaniline (DNA)	fall-applied or pre-plant incorporated	X	X
269	<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			
281	<b>Glyphosate</b>	360 - 540 g/L glyphosate	9	EPSP Synthase Inhibitor		pre-seed or pre-emergence	X	X
495	<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
504	<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
521	<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
449	<b>Authority 480</b>	480 g/L sulfentrazone	14	PPO Inhibitor	Triazolinone	pre-plant or up to 3 days following planting		X
126	<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			
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			
281	<b>Glyphosate</b>	360 - 540 g/L glyphosate	9	EPSP Synthase Inhibitor		pre-seed or pre-emergence	X	X
521	<b>Zidua SC</b>	500 g/L pyroxasulfone	15	Very Long Chain Fatty Acid Inhibitor	Chloroacetamide	pre-plant or pre-emergent	X	X

**Table 4: Post-Emergent Herbicides**

Page	Herbicide	Active Ingredient	Group	Site of action	Chemical Family	Crop Staging/Timing	Weed Spectrum	
							Grassy Weeds	Broadleaf Weeds
178	<b>Clethodim</b>	240 - 360 g/L clethodim	1	ACC-ase Inhibitor	Cyclohexanedione (Dim)	VE - V12	X	
490	<b>Express SG</b>	50% tribenuron-methyl	2	ALS Enzyme Inhibitor	Sulfonylurea (SU)	ExpressSun varieties only: V2 - V8		X
306	<b>Imazamox</b>	25 - 350 g/L imazamox	2	ALS Enzyme Inhibitor	Imidazolinone (Imi)	Clearfield sunflowers only: V2 - V8	X	X
312	<b>Imazamox/ imazethapyr</b>	35% imazamox + 35% imazethapyr	2	ALS Enzyme Inhibitor	Imidazolinone (Imi)	Clearfield sunflowers only: V2 - V8	X	X
355	<b>Muster</b>	75% ethametsulfuron-methyl	2	ALS Enzyme Inhibitor	Sulfonylurea (SU)	V2 - V8		X
388	<b>Poast Ultra</b>	450 g/L sethoxydim	1	ACC-ase Inhibitor	Cyclohexanedione (Dim)	prior to R1 (terminal bud formation)	X	
401	<b>Quizalofop</b>	96 g/L quizalofop-p-ethyl*	1	ACC-ase Inhibitor	Aryloxyphenoxy propionic acid (Fop)	VE - V8	X	
306	<b>Solo Ultra Q3</b>	25g/L imazamox	2	ALS Enzyme Inhibitor	Imidazolinone (Imi)	V2 - V8	X	X
		96 g/L quizalofop-p-ethyl	1	ACC-ase Inhibitor	Aryloxyphenoxy propionic acid (Fop)			

**\*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
211	<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%		
293	<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 is 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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