

# SUNFLOWER WEED CONTROL

Herbicide	Product/A (ai/A)	Weeds	When to Apply	Remarks and Paragraphs
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Refer to page 6 for Fall or Spring Early Preplant Herbicides.

Refer to page 39 for additional herbicides to use in conventional or herbicide resistant sunflower.

## Soil-Applied Herbicides

Eptam (EPTC <sup>3</sup> )	2.5 to 3.5 pt (2 to 3 lb)	Grass and some broadleaf weeds.	PPI.	No wild mustard control. PPI immediately after application. A1-2 B1 F1-2 J1
Prowl Prowl H2O (pendimethalin <sup>3</sup> )	2.4 to 3.6 pt 3.3EC 2.1 to 3 pt 3.8ACS (1 to 1.5 lb)		PPI.	Poor wild oat and no wild mustard control. Adjust rate for soil type. Refer to label for tank-mix options. A1-2 B1 B7 E11 J1 X1 Y1 Y13 Pages: 108-109, 112-113
	3 to 3.6 pt 3.3EC 2.7 to 3 pt 3.8ACS (1.25 to 1.5 lb)		PRE - 30 days before to 1 day after seeding.	Apply PRE for no-till sunflower only.
Treflan / generic trifluralin <sup>3</sup>	1 to 2 pt EC 5 to 10 lb 10G (0.5 to 1 lb)		PPI.	PPI within 24 hours after application. Poor wild oat and no wild mustard control. Adjust rate for soil type.
Sonalan (ethalfluralin <sup>3</sup> )	1.5 to 3 pt EC 5.5 to 11.5 lb 10G (0.55 to 1.15 lb)		PPI. Spring. Fall: From October 1 to December 31.	Use highest rate allowed for nightshade control. A1-2 B1 B7 E11 J1 X1 Y1 Y13 Pages: 106-107, 108-109, 112-113
	7.5 to 11.5 lb 10G (0.75 to 1.15 lb)	Foxtail.		For use in reduced or conservation tillage. Incorporate twice at 2 to 3 inches deep using a V-blade under-cutter or rotary hoe. For fall applications, incorporate once in the fall and once in the spring before seeding. A1-2 B1 B7 E11 J1 X1 Y1 Y13 Pages: 112-113
Dual Magnum (S-metolachlor <sup>15</sup> )	1 to 2 pt (0.95 to 1.9 lb)	Grass and some broadleaf weeds.	Shallow PPI or PRE.	PPI improves consistency of control. PRE requires moisture for activation. A1-2 B1 E6 J1
Spartan (sulfentrazone <sup>14</sup> )	3 to 8 fl oz F (1.5 to 4 oz)	Small-seeded broadleaf weeds including kochia, pigweed, lambsquarters, nightshade, and b. wormwood.	EPP, shallow PPI, or PRE.	PRE requires precipitation for activation. EPP up to 30 days prior to planting improves likelihood of activation by moisture. Adjust rate for soil type. Temporary sunflower injury may occur in coarse, low organic matter soils with pH greater than 7.8. May give 6 to 8 weeks residual weed control. BroadAxe may provide greater weed control as a premix product than activity from each herbicide.
Spartan Charge (carfentrazone <sup>14</sup> & sulfentrazone <sup>14</sup> )	3.75 to 7.75 fl oz (1.16 to 2.4 oz & 1.28 to 2.65 oz)			A1-2 B1 E6 E12 J1 J3 S1 S1-12 Y14 Pages: 112-113
BroadAxe (metolachlor <sup>15</sup> & sulfentrazone <sup>14</sup> )	20 to 32 fl oz F (0.99 to 1.6 lb + 1.76 to 2.8 oz)	Many grass and small-seeded broadleaf weeds.		

## POST-Applied Herbicides

Assert (imazamethabenz <sup>2</sup> )	0.6 to 0.8 pt (0.19 to 0.25 lb)	Wild mustard.	POST. Sunflower: Less than 8 leaves or 15 inches tall. Mustard/canola: Prior to bloom.	Add NIS at 0.25% v/v. Do not tankmix with any other herbicide and do not apply with MSO adjuvant. Sunflower injury may occur when applied at high temperature and humidity. A5 J1-2 X1 Y2 Pages: 106-107, 112-113
Assure II / Targa (quizalofop <sup>1</sup> )	7 to 12 fl oz (0.77 to 1.32 oz)	Annual grasses and quackgrass.	POST. Sunflower: Refer to PHI.	Add oil adjuvant at 1% v/v but not less than 1.25 pt/A. Refer to label for tank-mix options. Refer to Remarks in the POST grass herbicide section under Soybean for methods to avoid antagonism and reduced grass control from broadleaf herbicides. Allow a 70 day PHI. A3 A5-6 E2 J1 S3 S13 X1 Pages: 106-107, 108-109
Poast (sethoxydim <sup>1</sup> )	0.5 to 1.5 pt (0.1 to 0.3 lb)	Annual grasses.	Grass: Refer to soybean section on page 27.	
Select Max 1EC Select 2EC Shadow 3EC (clethodim <sup>1</sup> )	9 to 16 fl oz 4 to 8 fl oz 2.66 to 5.33 (1 to 2 oz)	Annual grasses and quackgrass.		

Pages 106-107 = Herbicide resistance, Pages 108-109 = Generic and commercial names, Pages 112-113 = Crop rotation restrictions.



**Preharvest Herbicides**

Roundup / generic glyphosate <sup>9</sup>	Up to 0.75 lb ae <b>See Remarks.</b>	Preharvest weed control.	Backside of sunflower heads yellow and bracts turning brown at the shoulder.	<b>Do not apply to sunflower grown for seed because reduced germination / vigor may occur.</b> Use only registered formulations. Add AMS at 8.5 lb/100 gal. A3-7 B2 X1. Pages: 106-107, 108-109.
paraquat <sup>22</sup>	<b>RUP</b> 1.5 to 2 pt 2SL 1 to 1.35 pt 3SL (0.375 to 0.5 lb)	Desiccant.	Seed moisture content under 35%.	Use on confectionery and oilseed sunflower varieties. Add oil adjuvant at 1 to 2 pt/A. Most active in hot and sunny conditions. B8. Pages: 108-109.
Valor + MSO adjuvant (flumioxazin <sup>14</sup> )	2 to 3 oz + 1 qt/A (1.02 to 1.53 oz)		PHI: Roundup = 7 days. paraquat = 7 days. Sharpen = 7 days.	Add AMS at 8.5 lb/100 gal. Use 5 gpa for aerial application. May be tank-mixed with glyphosate or paraquat for weed desiccation.
Sharpen + MSO adjuvant, (saflufenacil <sup>14</sup> )	1 to 2 fl oz + 1 to 1.5 pt/A (0.36 to 0.71 oz)			<b>Do not apply to sunflower grown for seed because reduced germination / vigor may occur.</b> Add AMS at 8.5 lb/100 gal. Use >5 gpa for aerial application. May be tank-mixed with glyphosate. Pages: 112-113

**HERBICIDE RESISTANT SUNFLOWER**

Refer to page 36 for additional herbicides to use in conventional or herbicide resistant sunflower.

**Clearfield Sunflower**

Herbicide	Product/A (ai/A)	Weeds	When to Apply	Remarks and Paragraphs
Beyond (imazamox <sup>2</sup> )	4 fl oz (0.5 oz)	Annual broadleaf weeds including wild mustard and black nightshade. No ALS-resistant kochia control.	EPOST. Sunflower: 2 to 8-leaf stage. Broadleaf weeds: Less than 3 inches tall. Grass weeds: Less than 4 to 5 leaves.	<b>Apply only to Clearfield sunflower varieties.</b> Add NIS at 0.25% v/v + UAN at 2.5% v/v. MSO and oil adjuvants are not prohibited but may increase activity and cause temporary crop injury. Refer to label for weeds controlled, adjuvant use, and tank-mix options. A3 A5-7 E10 J4 X1 Y1-2 Y15 Pages: 106-107, 112-113
	4 to 6 fl oz (0.5 to 0.75 oz)			<b>Apply only to Clearfield Plus sunflower varieties.</b> Clearfield Plus sunflower has increased tolerance to imazamox that allows higher herbicide rates and use of more effective MSO adjuvants. Add MSO at 1 to 1.5 pt/A + UAN at 2.5% v/v or AMS at 12 to 15 lbs/100 gal.

**Express Sun Sunflower**

Herbicide	Product/A (ai/A)	Weeds	When to Apply	Remarks and Paragraphs
Express SG (tribenuron <sup>2</sup> )	0.25 to 0.5 oz SG (0.125 to 0.25 oz)	Annual broadleaf weeds including wild mustard. Suppression of Canada thistle. No grass or ALS-resistant kochia control.	EPOST. Sunflower: 1-leaf stage but prior to bud formation.  Broadleaf weeds: Less than 3 inches tall.	<b>Apply only to Express Sun sunflower varieties.</b> Apply with MSO adjuvant at 1 to 1.5 pt/A and with a registered POST grass herbicide. Observe a 14 day interval between sequential applications but do not exceed a total rate of 1 oz/A. Allow a 70 day PHI. A3 A5-7 J1 J5 T3 X1 Y1-2 Pages: 106-107, 108-109

Pages 106-107 = Herbicide resistance, Pages 108-109 = Generic and commercial names, Pages 112-113 = Crop rotation restrictions.