

WEED MANAGEMENT IN SUNFLOWER

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General Information

While options for weed management in sunflower production are limited, adequate weed control can be obtained with proper application timings. Sunflowers should be drilled or seeded so that all seed are covered with soil. Broadcast seeding may result in poor seed to soil contact and herbicide applications may increase sunflower injury. Reduced rates of preemergence herbicides may be necessary for sunflowers planted on sandy or lighter textured soils to reduce the potential for injury. Activating rainfall or irrigation is needed for optimum preemergence herbicide activity and weed control.

A successful weed management plan will use multiple production methods to keep weed populations low. Tillage and seedbed preparation or effective burndown herbicides should eliminate all emerged weeds prior to planting. Use of specific herbicides depends on the weed spectrum of your field, economic considerations and application system. Consider your situation and tailor a weed control program to your needs. The following sections will guide you in the decision making process. Always read and follow label directions, as labels frequently change.

Herbicides for Weed Management in Sunflowers

Burndown Herbicides for Weed Management in Sunflowers.

Herbicide	Rate/Acre Broadcast		Remarks/Precautions
	Formulation	Active Ingredient	
Gramoxone Max 3SL (paraquat) and other trade names	1.5-2.0 pt.	0.5-0.75 lb.	Apply prior to planting to effectively desiccate weeds for more efficient planting and reduced competition with sunflower seedlings. Always add non-ionic surfactant at 2 qt./100 gallons of spray solution.
Glyphosate* acid equivalent (ae) 3 lb ae/gal. 4 lb. ae/gal. 4.5 lb. ae/gal.	32-48 oz. 24-35 oz. 22-32 oz.	0.75-1.1 lb. ae	Apply 1-2 weeks prior to anticipated planting date to control existing grass and broadleaf weeds and to reduce competition with sunflower seedlings. Addition of ammonium sulfate at 8.5 lb./100 gallons of spray solution may improve weed control when mixed with some SC water sources.

* NOTE: Several brands of glyphosate have become available in recent years. Products differ in terms of concentration, application rates, addition of surfactant and registration on Roundup Ready crops. Always read the label before application.

PrePlant Incorporated (PPI) and Preemergence (PRE) Herbicides for Weed Management in Sunflowers.

Herbicide	Rate/Acre Broadcast		Remarks/Precautions
	Formulation	Active Ingredient	
Dual Magnum 7.62SC (S-metolachlor)	1.0-1.33 pt.	0.96-1.27 lb.	Control of annual grasses and small seeded broadleaf weeds. Incorporate into the top 2 inches of soil. Can also be applied preemergence (after planting, prior to crop emergence). Provides nutsedge suppression.
Prowl H ₂ O 3.8EC (pendimethalin)	1.5 pints	0.71 lb.	Control of annual grasses and small seeded broadleaf weeds. Incorporate into the top 2 inches of soil with in 7 days of application. Can also be applied preemergence (after planting, prior to crop emergence).
Prowl 3.3 EC	1.7 pt.		
Spartan 4F (sulfentrazone)	3.0-3.75 oz.	0.094-0.118 lb.	For broadleaf weed control. Incorporate to 2 inches. Tank mix with a grass herbicide for broader spectrum control. Spartan can cause sunflower injury at high rate on light soil. Does not control sicklepod. Can also be applied preemergence (after planting, prior to crop emergence).
Sonalan 3EC (ethalfluralin)	1.5-2.0 pt.	0.6-0.75 lb.	Control of annual grasses and small seeded broadleaf weeds. Incorporate into the top 2 inches of soil with in 48 hours of application.
Treflan 4EC (trifluralin)	1.0-1.5 pt.	0.5to 0.75 lb.	Control of annual grasses and small seeded broadleaf weeds. Incorporate into the top 2 inches of soil with in 24 hours of application.

Postemergence (POST) Herbicides for Weed Management in Sunflowers.

Herbicide	Rate/Acre Broadcast		Remarks/Precautions
	Formulation	Active Ingredient	
Beyond 1AS (imazamox)	4-6 oz.	0.032-0.047 lb.	Apply only to Clearfield sunflower hybrids. For best results use a soil applied herbicide at planting. Make applications to sunflowers from the 2-8 leaf stage before broadleaf weeds exceed 3 inches in height. Apply with non-ionic surfactant 2 qt./100 gal and liquid nitrogen at 1-2 qts/A or ammonium sulfate at 1.5-3 lbs/A.
Poast 1.5 EC (sethoxydim)	1.0-1.5 pt.	0.188-0.3 lb.	Controls annual and perennial grasses. Apply 1.0 pint per acre when grass are small. Apply higher rate when large annual grasses or johnsongrass are present. Add crop oil concentrate at 1 quart per acre. Do not apply with in 70 days of harvest.

(Continued on next page)

POST herbicides cont.

Rate/Acre Broadcast			
Herbicide	Formulation	Active Ingredient	Remarks/Precautions
Select 2EC (clethodim)	6-16 oz.	0.09-0.25 lb.	Controls annual and perennial grasses. Add crop oil concentrate at 1 quart per acre. Do not apply within 70 days of harvest.

Crop Replant and Rotation Restrictions for Sunflower Herbicides.

	Corn	Cotton	Grain Sorghum	Peanuts	Soybeans	Sunflower	Tobacco	Wheat
Spartan	10 M*	18 M	10 M	None	None	None	None	4 M
Beyond	8.5 M	9 M	18 M	9 M	None	9 M	9 M	3 M

* M = months, D = days.

Weed Response¹ to Herbicides for Sunflower Weed Management.

	PPI or PRE					POST		
	Dual Magnum	Prowl	Spartan	Sonalan	Treflan	Beyond	Poast	Select
Broadleaf weeds								
cocklebur	0	0	8	0	0	8	0	0
coffee senna	0	0	8	0	0	0	0	0
croton, tropic	0	0	8	0	0	---	0	0
Florida pusley	0	0	7	0	0	---	0	0
jimsonweed	0	0	---	0	0	6	0	0
hemp sesbania	0	0	3	0	0	---	0	0
cm. lambsquarters	6	9	8	9	9	5	0	0
morningglory spp.	2	2	8	0	0	7	0	0
Palmer pigweed	8	8	8	8	8	3	0	0
prickly sida	0	3	8	0	0	6	0	0
ragweed, common	0	3	4	0	0	6	0	0
sicklepod	2	2	2	0	0	0	0	0
spurred anoda	0	2	3	0	0	---	0	0
PA smartweed	0	2	8	0	0	6	0	0
veletleaf	0	0	7	0	0	8	0	0
Grass weeds								
Bermudagrass	0	0	5	3	3	4	5	8
Rhizome johnsongrass	0	0	5	4	4	4	7	8
Crabgrass	9	9	5	9	9	7	8	9
Crowfootgrass	9	9	5	9	9	7	8	9
Goosegrass	9	9	5	9	9	7	8	9
Texas panicum	5	8	5	8	8	5	8	8
Sedges								
Purple nutsedge	5	0	7	0	0	0	0	0
Yellow nutsedge	7	0	8	0	0	0	0	0

¹KEY TO RESPONSE RATINGS: 0=No control; 10=100% control; ---=Data not available. Ratings are based on application of labeled rates of each herbicide, applied at the optimum timing for each weed.