

Sunflower Spring Boot Camp – Preparations for Spring – Weed Control

Sunflower Boot Camp Part 4 - Weed Control



Weed Control

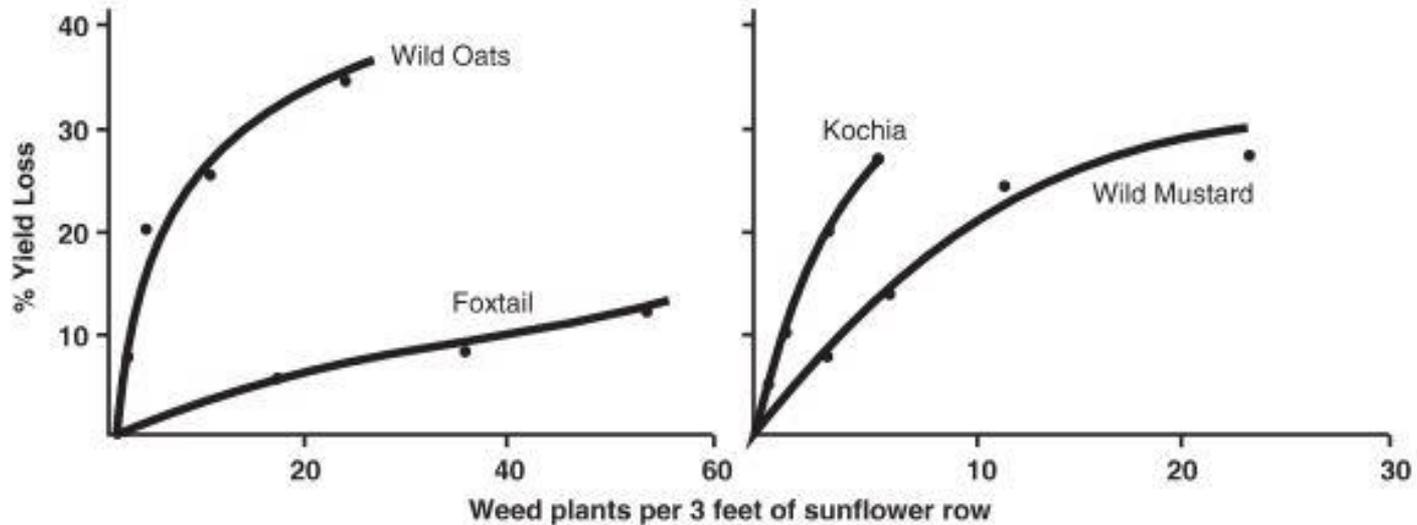
- **Start Clean**
 - Burn down and Pre-emergence chemicals key
- **Stay Clean**
 - Spray weeds when they are small
- **Use correct rates and adjuvants**



Weed Control Critical Timing

- Early season weed competition is responsible for most yield loss as they compete for light, water, and nutrients
- Most crucial time for competition is from 1 to 5 weeks after emergence
- May see up to 1% a day yield loss if weed control is delayed beyond the “critical period”
 - “critical period” is determined by weed species, weed density, time of emergence

Yield Reduction from weed competition



Preplant Weed Control

- Several PREs are available to control broadleaf weeds like kochia, Russian thistle
- Some PREs require incorporation but others are soil applied and perform best when NOT incorporated

- A good PRE activation can make it possible that a POST spray application will be unnecessary, saving you time and money



Preplant Options

<u>HERBICIDE</u>	<u>CHEM GROUP</u>	<u>Product/ Acre</u>	<u>\$/Acre</u>	<u>WEEDS</u>	<u>WHEN TO APPLY</u>	<u>ADJUVANT</u>	<u>REMARKS</u>
Eptam (EPTC)	8	2.5 pts-3.5 pts	\$12-\$18	Grass & some broadleaf	PPI		Not suggested for light soils; incorporate immediately No wild mustard control
Prowl H₂O (pendimethalin)	3	2 pts-3 pts	\$7-\$18	Grass & some broadleaf	EPPS, PPI Spring, PPI Fall		Poor control on wild oats
Treflan / Generic trifluralin	3	1-2 pts 4L, 5-10 lb 10G	\$5-\$12	Grass & some broadleaf	PPI Spring OR Fall		Immediate incorporation of liquid formulation Poor control on wild oats
Sonalan (ethalfluralin)	3	1.5-3 pts 3L, 5.5- 11.5 lb 10G	\$8-\$17	Grass & some broadleaf	PPI Spring OR Fall		Immediate incorporation of liquid formulation Poor control on wild oats

Preplant Options

<u>HERBICIDE</u>	<u>CHEM GROUP</u>	<u>Product/ Acre</u>	<u>\$/Acre</u>	<u>WEEDS</u>	<u>WHEN TO APPLY</u>	<u>ADJUVANT</u>	<u>REMARKS</u>
Dual Magnum (S-metolachlor)	15	1 pt-2 pts	\$13-\$25	Grass & some broadleaf	PPI or PRE		Excellent control of most annual grasses
Spartan (sulfentrazone)	14	3-8 oz	\$13-\$35	Small seeded broadleaves including kochia, pigweed, lambsquarter	EPP, shallow PPI or PRE	Add COC to improve burndown activity	Rates vary with soil texture
Spartan Charge (carfentrazone & sulfentrazone)	14	3.75-7.75 oz	\$13-\$35	Small seeded broadleaves including kochia, pigweed, lambsquarter	EPP, shallow PPI or PRE		Rates vary with soil texture
BroadAxe XC (metalachlor +sulfentrazone)	14 & 15	20-32 oz	\$29-\$45	Many grasses & small seeded broadleaf weeds	EPP, shallow PPI, or PRE		Rates vary with soil texture

Preplant Options

<u>HERBICIDE</u>	<u>CHEM GROUP</u>	<u>Product/ Acre</u>	<u>\$/Acre</u>	<u>WEEDS</u>	<u>WHEN TO APPLY</u>	<u>ADJUVANT</u>	<u>REMARKS</u>
Authority Supreme (sulfentrazone+pyroxasulfone)	14 & 15	5.8 oz – 15.4 oz	\$16-\$27	Small seeded broadleaves including kochia, pigweed, lambsquarter	EPP, shallow PPI or PRE		Requires precipitation for activations Rates vary with soil type / texture
Anthem Flex (pyroxasulfone & carfentrazone)	14 & 15	2 oz – 7.3 oz	\$18-\$35	Small seeded broadleaves including kochia, pigweed, lambsquarter	EPP, PPI or PRE		Rates vary with soil texture / OM
Zidua (pyroxasulfone)	15	1.75 -6.5	\$13-\$20	Small seeded broadleaves including kochia, pigweed, lambsquarter	EPP, PRE or POST V1 to V8		DO NOT APPLY PPI, do not apply at cotyledon or seed cracking stage

Plant Staging for Post Herbicide Applications



Staging Sunflower

- In the vegetative stages it is done by counting “true” leaves
- True leaves are pointed, 1.5” long
- POST weed control options allow spray up through V8 stage



Staging Sunflower Growth Chart (VE – R-3)

Vegetative Stages



True leaf – 4 cm



V-12



V-E



V-2



V-4

Reproductive Stages



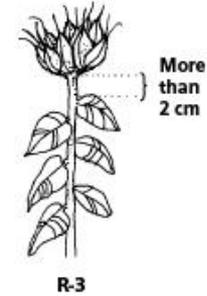
R-1



R-2



R-2



R-3

Staging Sunflower Growth Chart (R3-R9)



R-3



R-3 Top View



R-4 Top View



R-5.1



R-5.5



R-5.9



R-6



R-7



R-8



R-9

Weed Control Post Spraying options



Sunflower post emergence herbicide options

CLEARFIELD

Clearfield®

- 4 oz/ acre + NIS at 1 qt/100 gallons (0.25 % v/v) + AMS 12-15lbs/ 100 gallons
- Chemical used is **Beyond Xtra®***-imazamox
- Large application window (2 to 8 leaf stage)
- One pass control-broadleaf and grass, tank mix grass herbicide for consistent control of grasses. One application per growing season.
- Good to excellent cocklebur control
- Up to 4 weeks residual activity under ideal conditions
- Crop rotation restrictions to be managed after application factors include (rainfall, soil type, & pH)
- Good control of Lance Leaf sage is strength vs Express in the west 

Sunflower post emergence herbicide options

CLEARFIELD PLUS

• Clearfield Plus®

- 4- 6 oz/ acre (adjuvant MSO 1% Or HSOC @ 0.5% v/v) + 12-15 lbs AMS or 2.5 gal UAN / 100 gal water = greater efficacy than NIS)
- Chemical used is **Beyond Xtra®***-imazamox
- Large application window (2 to 8 leaf stage)
- One pass control-broadleaf and grass, tankmix grass control herbicide for consistent control of grasses. One application/ growing season.
- Good to excellent cocklebur control
- Up to 4 weeks residual activity under ideal conditions
- Crop rotation limitations in low rainfall and high pH situations.
- Group 2 herbicide (ALS) = kochia is resistant

Sunflower post emergence herbicide options

Express

- **Express Sun**

- Up to 1 oz per Acre/ growing season (0.25-0.5 oz/ application)
- Chemical used is Express Herbicide with Totalsol (tribenuron methyl)
- Large application window (2 leaf to pre bud)
- One pass control-broadleaf.
- A grass control herbicide needed to tank mix with Express to control grasses. Antagonism of Express requires approx. 50% more grass herbicide rate than if grass herbicide was applied alone.
- Good to excellent Canadian thistle control. Poor control of Cocklebur
- Group 2 herbicide (ALS) = kochia is resistant

THANK YOU

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