



ZONE DEFENSE®

herbicide

Two zones of defense against problematic weeds in soybeans

Zone Defense® is a novel blend of two PPO chemistries for early preplant or preemergence weed control. The herbicide works across all soybean production systems.

With two zones of protection extending from the soil surface to deeper soil layers, Zone Defense controls more than 75 grass and broadleaf weeds including glyphosate-, photosystem II- and ALS-resistant species. Weeds stay under control with up to 60 days of residual activity.



Product Specifications

Brand Name	Zone Defense®
Category	Herbicide
Active Ingredient	Sulfentrazone + Flumioxazin
Crops	Soybeans
Site of Action	Group 14 / Group 14
Formulation	Water dispersible granule
AI/Pound	Sulfentrazone 0.62 lb a.i./lb Flumioxazin 0.15 lb a.i./lb
Applications	Preplant, PPI, preemergence, fall burndown, fallow seedbed
Rates	
Used Alone	3.5–6.6 fl oz/A
Tank Mix with Helmet SPC at 1.67 pt/A	3.5–6.6 fl oz/A
Weed Spectrum	Broadleaf and grass species
Signal Word	Caution

Performance Benefits

- Flexible use prior to crop emergence.
- Controls or suppresses 75+ weed species.

Product Features

- Optimal AI ratio for superior results.
- Versatile application by ground or air.

For best results across most soil types, apply Zone Defense at a rate of 5.0 fl oz/A with a Group 15 product like Helmet Herbicide™.



SOYBEANS



REI	12 hours
PHI	N/A
Restricted Use	No
Packaging	2 x 10 lb
EPA #	74530-91

CROPS

Soybeans

PRIMARY WEEDS CONTROLLED (OR SUPPRESSED)

Amaranth Species, American Daisy, Annual Sedge, Bristly Starbur, Carpetweed, Catchweed, Chamomile Mayweed, Chickweed, Coffee Senna, Copperleaf (hophornbeam, Virginia), Crabgrass Species, Curly Dock, Devil's Claw, Eclipta, Flixweed, Golden Crownbeard, Goosegrass, Groundcherry (clammy, cutleaf), Hairy Galinsoga, Hedgehog Cyperus, Jimsonweed, Kochia (ALS, triazine resistant), Ladysthumb, Lambsquarters, Mallow, Miners Lettuce, Morningglory Species, Mustard Species, Nightshade (black, eastern black), Nutsedge (purple, yellow), Orchardgrass, Palmer Amaranth, Panicum (fall, Texas), Pennsylvania Smartweed, Pigweed Species, Plantain Species, Poorjoe, Porophyllum, Prickly Sida/ Teaweed, Purslane, Redmaids, Redstem Filaree, Red Tasselflower, Redweed, Russian Thistle, Shepherd's Purse, Sicklepod, Smellmellon, Southern Sida, Spurred Anoda, Stinkgrass, Tropic Croton, Waterhemp, Wild Poinsettia, Winged Waterprimrose, Witchgrass, Woolly Cupgrass, Yellow Toadflax

APPLICATION RATES AND GUIDELINES (fl oz/A)

Soybeans

Fall, Spring Preplant Surface, PPI, Preemergence

% Organic Matter	Soil Texture		
	Coarse	Medium	Fine
0.5 - 2.0%	3.5-4.0	4.5-5.0	5.0
2.0 - 4.0%	4.0-5.0	5.0	-

Use higher rates for soils with pH less than 7.0. Use lower rates for soils with pH greater than 7.0.

Do not apply more than 6.6 fl oz/A of Zone Defense per application.

Do not apply more than 9.6 fl oz/A of Zone Defense per a 12 month period.

Coarse Sand, Loamy Sand, Sandy Loam

Medium Sandy Clay Loam, Sandy Clay, Loam, Silt Loam, Silt

Fine Silty Clay Loam, Silty Clay, Clay Loam, Clay

USE RESTRICTIONS

Early Preplant (no-till, reduced tillage, or stale seedbed)	Zone Defense must be applied in combination with a labeled burndown herbicide such as glyphosate, glufosinate, paraquat, and/or 2,4-D to achieve acceptable control of existing weeds. For applications 30 to 60 days before planting, apply the higher rate in the appropriate soil range using the above table depending on soybean system being grown.
Preplant Incorporated	Uniformly incorporate Zone Defense alone or in a tank mix no deeper than 2 inches prior to planting. Improper incorporation can result in erratic weed control or potential crop injury.
Preemergence	Zone Defense may be applied at planting time or within 3 days after planting, but before seed emergence. It may be applied alone or in tank mix with other labeled herbicides. Seed furrow should be completely closed and seed covered before making a Zone Defense application.
Fallow Burndown	Zone Defense, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where soybeans will be planted directly into a stale seedbed, cover crop or in previous crop residues. Apply Zone Defense with ground equipment before planting, during planting or with in 3 days after planting, but before the crop emerges.

Burndown applications prior to crop emergence require use of a COC, MSO, NIS adjuvant.

NOTE: Certain tank mix partners may be formulated with sufficient adjuvants (not requiring additional adjuvant).



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