

# **SOYBEAN - PREEMERGENCE WEEDS CONTROL**

## General Information

### FOR USE ON SOYBEANS ONLY

Do not apply this product through any type of irrigation system.

Low pressure and high volume hand wand equipment is prohibited.

Single Application: Do not apply a full rate of this product more than once per soybean cropping cycle. Maximum rates are soil chemistry and geographically specific, please see full label for rate maximum.

Split Application: Two applications totaling the fully labeled rate of this product may be made per soybean cropping cycle. Do not exceed the full labeled rate for the geography. Maximum rates are soil chemistry and geographically specific, please see full label for rate maximum.

Grazing and Feeding Treated Soybean Vines: Treated vines may be grazed or fed to livestock 40 days after application.

## PRODUCT INFORMATION

This herbicide is a dispersible granule formulation to be mixed with water and sprayed for selective burndown and residual weed control in soybeans. When applied according to the instructions on this label, it will control many broadleaf weeds and provide partial control of nutsedge and annual grasses.

This product is a soybean herbicide with two modes of action, which will deliver consistent burndown of winter annuals, even under cool, wet conditions. This product maximizes early season residual control of tough weeds, allowing an in-crop glyphosate application to be made closer to crop canopy. This product rapidly inhibits the growth of susceptible weeds and may be tank mixed with many other products for increased weed control. This product may be applied as a burndown for control of early emerged weeds.

Following a burndown application, growth of susceptible weeds ceases, followed by tissue yellowing, browning, and death of the growing point. Include a spray additive recommended in the burndown sections of this label. This product may be applied by ground (broadcast or band) or by air. Certain crop rotation and pH restrictions

apply.

Refer to 'Geographic Use Regions' and 'Rotational Crop Guidelines 1 or 2'. Consult label text for complete instructions. Always read and follow label directions for use.

Residual applications of this product require rainfall or sprinkler irrigation to activate the herbicide. Degree of control and duration of effect depend on: rate used, weed spectrum, growing conditions at and following time of treatment, soil pH, texture, organic matter, moisture and precipitation.

Best residual control is obtained if this product is applied to moist soil and followed by rainfall or irrigation (~1") before weeds germinate. Several small rainfalls of less than 1/4" each are not as beneficial as one large rainfall of 1/2 to 1". On dry soil, more moisture is required for activation (1 to 2") before weed emergence. If moisture is insufficient to activate the herbicide, a rotary hoeing or shallow cultivation should be made after emergence of the crop while weeds are small enough to be controlled by mechanical means.

#### IMPORTANT

Injury to or loss of desirable trees or vegetation may result from failure to observe the following: Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts or similar areas. Prevent drift of spray to desirable plants. Do not contaminate any body of water. Keep from contact with fertilizers, insecticides, fungicides and seeds during storage.

Prior to using this product, consideration should be given to crop rotation plans. Crops other than soybeans may be extremely sensitive to low concentrations of this product remaining in the soil the next planting season. Choice of rotation crop is restricted following application of this product. (See "ROTATIONAL CROP GUIDELINES" for your geographical region.)

Thoroughly clean this product from application equipment immediately after use and prior to spraying crops other than soybeans. Failure to remove even small amounts of this product from application equipment may result in injury to subsequently sprayed crops.

Metribuzin is a chemical which can travel (seep or leach) through soil and can

contaminate groundwater which may be used as drinking water. Metribuzin has been found in groundwater as a result of agricultural use. Users are advised not to apply metribuzin where the water table (groundwater) is close to the surface and where the soils are very permeable, i.e., well drained soils such as loamy sands.

Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

#### PRODUCT RESTRICTIONS

- Do not apply in land that has been or will be treated with metsulfuron and/or chlorsulfuron-containing herbicides in Nebraska and Kansas without observing the rotational crop intervals for those products.
- Do not use on lawns, walks, driveways, tennis courts or similar areas.
- Do not contaminate any body of water.
- Do not tank mix this product with organophosphate insecticides.
- Do not apply this product within 14 days before or after an application of an organophosphate insecticide.
- Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Maximum rates are soil chemistry and geographically specific, please see full label for rate maximum.

#### PRODUCT PRECAUTIONS

- Because most crops are highly sensitive to this product, all direct or indirect contact (such as spray drift) to crops or to land scheduled to be planted to crops other than soybeans should be avoided.
- If a soybean variety is suspected of being sensitive to metribuzin, check with the soybean seed company before treating a field of that soybean variety with this product containing metribuzin.
- Soybean stunting may occur if excessive rainfall occurs after application but before soybeans germinate. Injury is more prevalent under poor drainage or compacted conditions or when soil is saturated for long periods of time. Soybeans rapidly outgrow stunting once favorable growing conditions return.
- Seedling disease, nematodes, cold weather, deep planting (more than 2"), excessive moisture, high salt concentration, or drought may weaken soybean seedlings and increase possibility of crop injury.
- Thoroughly clean this product from application equipment immediately after use

and prior to spraying crops other than soybeans.

- Failure to remove even small amounts of this product from application equipment may result in injury to subsequently sprayed crops.
- Injury to soybeans may occur if this product is used in conjunction with soil-applied organophosphate pesticides such as Di-Syston, Mocap, Namacur, Thimet, parathion, or Lorsban.
- Prevent drift of spray to desirable plants.
- Keep from contact with fertilizers, insecticides, fungicides and seeds during storage.

#### PESTICIDE HANDLING

- Calibrate sprayers only with clean water away from the well site.
- Make scheduled checks of spray equipment.
- Ensure accurate measurement of pesticides by all operation employees.
- Mix only enough product for the job at hand.
- Avoid over-filling of spray tank.
- Do not discharge excess material on the soil at a single spot in the field/grove or mixing/loading station.
- Dilute and agitate excess solution and apply at labeled rates/uses.
- Avoid storage of pesticides near well sites.
- When triple rinsing the pesticide container, be sure to add the rinsate to the spray mix.

#### BIOLOGICAL ACTIVITY

This product rapidly inhibits the growth of susceptible weeds. Following application of pre-plant incorporation or preemergence treatment, susceptible weeds may germinate and emerge, but growth then ceases and leaves become yellow 3-5 days after emergence. Death of leaf tissue and growing point will follow in some species while others will remain green but stunted and noncompetitive. Following a burndown application, growth of susceptible weeds ceases followed by tissue yellowing and browning and death of the growing point. This product provides partial control of some annual grasses when used pre-plant or preemergence but other products may be needed to ensure adequate grass control.

#### THE IMPORTANCE OF SOIL pH

Soil pH varies greatly, even within the same field. Variations in pH as much as 2 pH units are common. Composite soil samples taken across an entire field, such as those samples taken for soil fertility recommendations, may not detect areas of

high pH. Subsampling is recommended for areas likely to have pH values higher than the field average. The following is a non-inclusive list of potential high pH areas where subsampling is recommended.

- Where different soil types are evident within a field, sample soil types separately.
- Where conditions vary within a field, sample areas separately, such as:
  - areas bordered by limestone gravel roads,
  - river bottoms subject to flooding,
  - low areas in hardpan soils where evaporative ponds may occur,
  - eroded hillsides,
  - along drain tile lines, and
  - areas where drainage ditch spoil has been spread.
- Where lime has not been deeply incorporated, soil may exhibit significantly higher pH values in the upper 3 inches of soil. Composite soil samples taken at a 6 to 8 inch depth may not reflect the elevated pH near the surface. In these cases shallow sampling, the upper 3 inches, is advised.
- Determine soil pH by laboratory analysis using a 1:1 soil:water suspension.

## RESISTANCE MANAGEMENT

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or

herbicide recommendations available in your area.

## INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## APPLICATION EQUIPMENT

### SPRAYER PREPARATION

It is important that spray equipment is clean and free of existing pesticide deposits before using this product. Start with clean, well maintained application equipment. Follow the spray tank cleanout procedures specified on the label of the product previously sprayed. If no cleanout procedure is provided, follow the cleanout procedure below for all application equipment.

STEP 1. Thoroughly rinse sprayer, tanks, booms, nozzles, and hoses with clean water. Loosen and physically remove visible deposits.

STEP 2. Partially fill the tank with clean water and add household ammonia (one gallon of 3% active for every 100 gallons of water). A similar sprayer cleaner may also be used by following the label directions for that purpose. Complete filling the tank with water and flush the cleaning solution through the boom and hoses. Let stand for 15 minutes with agitation or recirculation and then drain the tank after flushing the hoses, boom and nozzles.

STEP 3. Thoroughly rinse the sprayer, hoses, boom and nozzles with clean water.

STEP 4. Follow label directions of the product previously sprayed for rinsate disposal.

Notes: During an extended period where spraying or mixing equipment will be used to apply multiple loads of this product, at the end of each day of spraying partially fill the tank with fresh water, flush the boom and hoses and allow to sit overnight. A steam cleaning of aerial spray tanks is recommended to dislodge any visible pesticide deposits.

## EQUIPMENT / SPRAY VOLUMES

Ground Application, conventional tillage:

- Use a minimum of 10 gallons per acre to ensure uniform coverage of soil and the best performance.
- For best performance, select nozzle and pressure combinations that deliver coarse to very coarse spray droplets, as indicated, for example, by ASAE standard S572.

Ground Application, conventional tillage - burndown:

- Use a minimum of 15 gallons per acre to ensure thorough coverage of the weeds and the best performance. For small weeds and/or heavy crop residue, increase the gallonage to ensure coverage.
- For best performance, select nozzle and pressure combinations that deliver medium spray droplets, as indicated, for example, by ASAE standard S572.

Aerial Application:

This product may be applied by air for early pre-plant, pre-plant incorporated or preemergence use on soybeans. Apply uniformly with properly calibrated aerial equipment. Use a minimum of 2 gallons of water per acre. Avoid overlapping. Continuous agitation of the spray tank is required to keep the material in suspension.

## APPLICATION INFORMATION - ALL USES

### APPLICATION METHODS

- Fall-applied, early pre-plant, pre-plant and preemergence, including burndown.
- Pre-plant incorporated. Incorporate uniformly, no deeper than the top 1 to 2" of soil prior to planting soybeans.
- Flat fan nozzles are preferred.
- This product may be followed sequentially by many postemergence herbicides, such as glyphosate, Synchrony XP, Assure II, or Flexstar.
- Spring-applied CLOAK may follow fall applications of CLOAK EX.
- For sequential programs using chlorimuron ethyl-containing herbicides (CLOAK, CLOAK EX, CURIO, and/or Synchrony XP), do not exceed 0.82 ounces ai (0.05 lbs ai) per acre chlorimuron ethyl in the Central Region States or 1.07 ounces ai (0.067 lbs ai) per acre chlorimuron ethyl in the Southern Region States in any one soybean growing cycle.

## TIMING TO CROP STAGE

- After fall harvest, this product may be applied any time prior to soybean emergence, except on frozen ground.
- Do not apply this product after the soybean crop has emerged.
- Do not apply this product to frozen ground.

## BURNDOWN INFORMATION

Apply this product when weeds are young and actively growing. Applications made to weeds larger than the indicated sizes, or to weeds under stress, may result in unsatisfactory control.

When used for burndown, this product is rainfast after one hour.

- Use a minimum of 15 gallons per acre to ensure thorough coverage of the weeds and the best performance. For small weeds and/or heavy crop residue, increase the gallonage to ensure coverage.
- For best performance, select nozzle and pressure combinations that deliver medium spray droplets, as indicated, for example, by ASAE standard S572.

## SPRAY ADDITIVES

Applications of this product used for burndown must include either a crop oil concentrate or a nonionic surfactant. Crop oil concentrate is the required adjuvant system unless tank mixing with a product that precludes use of crop oil concentrate.

Consult local fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. If another herbicide is tank mixed with this product, select adjuvants authorized for use with both products. Adjuvants must contain only EPA-exempt ingredients (40 CFR 1001).

Crop Oil Concentrate (COC) – Petroleum or Modified Seed Oil (MSO)

- Apply at 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.

Nonionic Surfactant (NIS)

- Apply at 0.25% v/v (1 quart per 100 gallons spray solution) or 0.5% under arid conditions.
- Surfactant products must contain at least 60% nonionic surfactant with a



hydrophilic/lipophilic balance (HLB) greater than 12.

## TANK MIXES

This product may be tank mixed or followed with sequential applications of other products registered for use in soybeans.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. To the extent consistent with applicable law, weed control and crop safety resulting from the use of tank mixtures not specifically noted on this label, or in separately published instructions, are the responsibility of the user.

2,4-D (LVE) is the isooctyl (2-ethylhexyl) ester of 2,4-Dichlorophenoxyacetic acid. This product is sold under a variety of trade names.

## Limitations, Restrictions, and Exceptions

### Weeds Controlled - Preemergence

Fall through early Spring applications of 2.25 ounces per acre CLOAK will provide limited residual control of listed weeds to contribute to a clean seedbed at normal planting times.

### Method

[Spray](#)

[Burndown](#)

### Rates

[field\\_rates 0](#)

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### Restricted Entry Interval

12 hours

### Timings

[Preemergence \(Weed\)](#)