

Reg # 55947-23

PM-23

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

AUG 2 1989

Mr. W.F. Millar
Sandoz Crop Protection Corporation
1300 East Touhy Avenue
Des Plaines, IL 60018

Dear Mr. Millar:

Subject: Probe 75 WDG
EPA Registration No. 55947-23
Your Submission Dated March 6, 1989

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, is acceptable provided that you:

1. Make the labeling change listed below before you release the product for shipment bearing the amended labeling:
 - In the Compatibility Test section, specify examples of compatibility agents cleared for application to growing crops.
2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

A stamped copy of the labeling is enclosed for your records.

Sincerely yours,

Larry Schnaubelt
Acting Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (H7505C)

Enclosure

56124:I:Yowell:MF-12:KENCO:07/20/89:08/01/89:CL:gj:vo:de:CT

CONCURRENCES

SYMBOL	H7505C						
SURNAME	Yowell						
DATE	7/24/89						

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PROBE HERBICIDE

ACTIVE INGREDIENTS:

Methazole*.....	75.0%
Related Compounds.....	3.9%
INERT INGREDIENTS.....	21.1%
TOTAL	100.0%

*2-(3,4-dichlorophenyl)-4-methyl-1,2,4-oxadiazolidine-3,5-dione.

WARNING

KEEP OUT OF

REACH OF CHILDREN

See left Side Panel for
Additional Precautionary Statements

E.P.A. reg. No. 55947-23
E.P.A. Est. No. 1517500-40-AA

NET CONTENTS:

Sandoz Crop Protection Corporation
1300 East Touhy Avenue
Des Plaines, Illinois 60018

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PROBE HERBICIDE

A selective herbicide for use in cotton.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

This labeling must be in the possession of the user at the time of the pesticide application.

EPA Reg. No. 55947-23

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**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

WARNING

Harmful if swallowed, inhaled or absorbed through the skin or eyes. Do not get in eyes, on skin or on clothing. Avoid breathing dust or spray mist. Keep out of the reach of children. Avoid contamination of feed and foodstuff.

In case of skin contact, wash immediately with soap and water. Skin contact may result in acneform reaction. For eyes, flush with plenty of water for at least 15 minutes and get medical attention.

Wear impervious gloves and protective clothing when handling. Wash hands, arms and face thoroughly with soap and water before eating or smoking. Wash all contaminated clothing with detergent and hot water before re-use.

Do not contaminate domestic or irrigation waters. Observe all precautions on labels of all products used in tank mixtures.

ENVIRONMENTAL HAZARDS

Do not apply directly to water or wetlands. Do not contaminate water by cleaning or equipment or disposal of wastes.

Do not apply when weather conditions favor drift from areas treated.

Do not apply where runoff is likely to occur.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Refer to the Use Directions Booklet attached to this container for proper use directions and additional precautionary statements. Apply this product only as directed on the label.

For additional copies of the Use Directions Booklet, write to the manufacturer.

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STORAGE AND DISPOSAL

Prohibitions

Do not contaminate water, food or feed by storage or disposal.

Storage

Store in original container in a well ventilated area separately from fertilizer, feed and foodstuffs. Avoid cross-contamination with other pesticides. Spillage or leakage should be contained, moistened, and carefully swept up avoiding inhalation of dust. Wash area of spill with detergent and water.

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved disposal facility.

Container Disposal

Plastic containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Plastic bags: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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LIMITED WARRANTY AND LIABILITY

NOTICE: Read this Limited Warranty and Liability before buying or using this product. If the terms are not acceptable, return it at once unopened.

It is critical that this product be used and mixed only as specified on the label. The laws of a State may make some or all of this paragraph inapplicable or may give you rights in addition to your rights hereunder. Except to the extent prohibited by applicable law, the exclusive remedy of the user or buyer and the limit of liability of this Company or any other Seller for any and all losses, personal injuries or damages resulting from the use of this product, shall be the purchase price paid by the user or buyer for the quantity of product involved. Except to the extent prohibited by State law, there is no warranty, and this Company and other Sellers disclaim all liability for losses, personal injury or damages: (i) arising from any use of this product in a manner or for a purpose not recommended in its label directions, or from mixing this product before use with any substance except as recommended by the product's label, (ii) arising from handling or storage in violation of label instructions, (iii) for all indirect, special or consequential damages, (iv) when not reported to this Company within one year of discovery, and (v) arising from product not used within the Labels-designated shelf life of four years from date of purchase, whichever first occurs. **THERE ARE NO IMPLIED WARRANTIES AND NO WARRANTIES OR MERCHANTABILITY OR FITNESS.**

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PROBE HERBICIDE

I. GENERAL PRECAUTIONS

The following directions apply to all uses of PROBE Herbicide. Additional precautions and restrictions are noted in each specific use section.

Do not graze or feed forage from treated areas to livestock.

PROBE is not recommended on alkali soils (pH > 8.0), or shallow soils with calcareous subsoils or out-croppings as crop injury may result.

Crops growing under stress conditions such as drought, disease, poor fertility or foliar damage due to hail, wind, sand blasting, or insects, can exhibit various injury symptoms that may be more pronounced if herbicides are applied.

Do not rotate with any other crops within one year of treatment, except cover crops, which must be plowed under and not grazed.

Consult your local or state authorities for possible application restrictions and advice concerning special local use situations.

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

II. DIRECTIONS FOR USE

PROBE is a selective herbicide for use in cotton. This product can be used postemergence as a directed spray in all areas and preemergence west of the Mississippi river. Post-directed applications can be made from when the cotton is 3 inches tall (early post) through lay-by.

III. MIXING AND APPLICATION

PROBE Herbicide should be applied in water solutions. Clean and calibrate the sprayer. Premix the proper amount of PROBE 75 WDG with a small amount of water. Add this mixture to the spray tank already filled with 3/4 of the required volume of water. Maintain agitation while filling the remaining water and spraying. If spray mixture is allowed to settle at any time, thorough agitation is required to re-suspend the mixture before spraying is resumed. Keep by-pass line on or near bottom of tank to minimize foaming. Ground equipment with 50 mesh or coarser screens in the nozzles and in-line strainers should be used.

PROBE Herbicide may be applied as a directed broadcast or band treatment. Apply the equivalent of 20-40 gallons of water carri-

er per acre on a broadcast basis.

Thoroughly clean the sprayer immediately after use by flushing the system with water containing a detergent.

A. Band Treatments

PROBE Herbicide may be applied as a band treatment. Use the formulas below to determine the appropriate rate and volume per treated acre.

$$\frac{\text{Band Width in Inches}}{\text{Row Width in inches}} \times \text{Broadcast Rate per treated acre} = \text{Band Rate per planted acre}$$

$$\frac{\text{Band Width in Inches}}{\text{Row Width in inches}} \times \text{Broadcast Volume per treated acre} = \text{Band Volume per planted acre}$$

B. Compatibility Test

Before mixing PROBE with other herbicides in the spray tank, it is advisable to test compatibility by mixing all components in a small container in proportionate quantities (see following table).

Amount of Herbicide to Add to One Pint of Spray Carrier
(Assuming Volume is 25 Gallons per Acre)

HERBICIDE FORMULATIONS	RATE PER ACRE	LEVEL TEASPOONS
Dry	1 lb.	1-1/2
Liquid	1 pt.	1/2

If herbicide(s) do not ball-up or form flakes, sludge, gels, oily films, layers or other precipitates, then the tested spray mix is compatible. Incompatibility in any of the above described forms will occur within 5 minutes after mixing.

If components are incompatible, the use of a compatibility agent is recommended. Rerun the above COMPATIBILITY TEST with a suitable compatibility agent (1/4 teaspoon is equivalent to 2 pints per 100 gallons of spray carrier).

IV. PREEMERGENCE USES

(Recommended for use only in cotton growing areas west of the Mississippi river)

A. Rates and Timings

PROBE Herbicide may be applied within 48 hours prior to planting and shallowly incorporated or applied immediately after planting but before cotton emergence. If applied preemergence and rainfall (or irrigation) is not anticipated before weed emergence, a shallow incorporation may be used for activation. Rainfall sufficient for seed germination is adequate for activation of PROBE.

This product may be applied to flat planted, bedded, or furrow planted cotton. A band application must be used where cotton is planted in the bottom of the furrow. The width of the band application cannot exceed the width of the furrow bottom.

If planting is necessary do not make a second application of PROBE as injury may result. No more than two post-directed applications of PROBE may be applied following a preemergence application of PROBE. Total amount of Probe applied in a season must not exceed 4 pounds of product per treated acre.

Use the following table to determine the recommended application rate based on soil texture and organic matter content:

SOIL TEXTURE	BROADCAST RATE PER TREATED ACRE (pounds of PROBE Herbicide)			
	Conventional Tillage Systems		Conservation Tillage Systems ¹	
	2% or less organic matter	greater than 2% but less than 4% organic matter	2% or less organic matter	greater than 2% organic matter
COARSE SOILS				
sand	1.3 ²	Do Not Use	Do Not Use	Do Not Use
loamy sand, and sandy loam.....	1.5 - 2.0	2.0 - 2.5	2.0 - 2.5	Not Recommended
MEDIUM SOILS				
loam, silt loam, silt, sandy clay loam, and sandy clay.....	2.0 - 2.5	2.5 - 3.3	2.5 - 3.3	Not Recommended
FINE SOILS				
silty clay loam, clay loam, silty clay, and clay.	2.5 - 3.3	Not Recommended	Not Recommended	Not Recommended

1. Conservation tillage systems include no-till, minimum till or reduced till systems. Conventional tillage rates should be used if row tillage is used.

2. PROBE may only be used on sand soils when used at the listed rate and applied as a sequential overlay treatment following trifluralin or Prowl applied as a preplant incorporated treatment.

B. Weeds Controlled (Preemergence)

PROBE will control the following weed species when applied according to preemergence label directions:

- | | |
|--------------------------------------|-------------------|
| barnyardgrass* | prickly sida |
| crabgrass* | purslane |
| lambsquarter | Russian thistle |
| nightshade, annual (black and hairy) | sicklepod |
| pigweed | spurge, prostrate |

* Heavy populations of these weeds are best controlled when PROBE is applied as a preemergence overlay treatment following trifluralin or Prowl applied preplant incorporated.

PROBE applied preemergence will suppress the following weeds:

- | | |
|----------------------------|----------------------|
| cocklebur | morningglory, annual |
| devilsclaw | prarie sunflower |
| lanceleaf sage (mint weed) | |

C. Preemergence Tankmixes and Sequential Overlay Treatments

PROBE Herbicide may be applied preemergence as a sequential overlay treatment following application of one of the following herbicides. PROBE may also be tankmixed with one of these herbicides if applied as a shallow but thoroughly incorporated preplant treatment:

HERBICIDE	MAXIMUM RATE PER TREATED ACRE (lbs. a.i.)
pendimethalin (Prowl)	1.5
trifluralin (Treflan, other name brands)	1.0

Special Preemergence Tankmix for Improved Control of Annual Morningglory, Lanceleaf Sage and Nutsedge.

PROBE Herbicide ~~may be~~ tankmixed with ZORIAL Rapid 80 for improved control of annual morningglory, lanceleaf sage and nutsedge (white and purple). Application rates for this combination are as follows:

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PROBE Herbicide and ZORIAL Rapid 80
BROADCAST TANKMIX RATE PER TREATED ACRE¹
(pounds of product)

SOIL TEXTURE² PROBE HERBICIDE + ZORIAL RAPID 80

COARSE SOILS
 sand,
 loamy sand, and
 sandy loam..... **Do Not Use**

MEDIUM SOILS
 loam, silt loam, silt,
 sandy clay loam, and
 sandy clay..... 1.5 + 0.6

FINE SOILS
 silty clay loam, clay loam,
 silty clay, and clay..... 1.5-2.0 + 0.6

1. The combination should only be used as banded application; use the broadcast rate to calculate band rate based on actual treated area.
2. PROBE herbicide is not recommended for soils containing more than 4% organic matter.

The PROBE + ZORIAL combination may be tankmixed with Prowl and applied preemergence or applied as a sequential overlay following a trifluralin or Prowl application.

The combination cannot be used on coarse textured soils including sand, loamy sand or sandy loam. The combination should not be used in Gaines Co., TX.

The combination should only be used as a banded application and for up to 2 consecutive seasons to reduce carryover potential. For 16 months following the last ZORIAL application, treated acreage may only be rotated to cotton or soybeans. See the ZORIAL use directions for additional use precautions.

V. POSTEMERGENCE USES

A. Rates and Timings

PROBE Herbicide may be applied as a post-directed spray when cotton is 3 inches or greater in height through lay-by. Do not exceed 1.0 lb. of PROBE Herbicide on cotton less than 6 inches in height.

Best control is obtained when weeds are small (< 2 inches). Lower recommended rates can also be used when weeds are small.

Minimize contact with cotton foilage and maximize contact with weeds by directing herbicide spray to the base of cotton plants. height or less).

Sequential follow-up applications may be necessary where initial application is made to dense weed populations, or where weeds are moisture or temperature stressed. Repeat applications may be made as needed, however, the total amount of Probe applied in a season must not exceed 4 pounds product per treated acre for ~~both pre-emergence and~~ postemergence applications.

The following table gives the recommended rate of application.

Crop Height ¹ (inches)	Weed Height (inches)	Broadcast Rate Per Acre ² (pounds of PROBE Herbicide)	Band Rate Per Acre ³
3 to 6"	< 2"	0.66	0.20
	2-3"	1.00	0.32
>6" to Lay-by	0-3"	2.00	0.79

1. Do not exceed 1.0 pound of PROBE Herbicide on cotton less than 6 inches tall.
2. Use an agriculturally approved non-ionic surfactant at 0.25% v/v.
3. Band rate is based on a 12 inch band with 38 inch row spacing. Band rate must be adjusted for other band widths or row spacings (See section III-A for band formula).

Use the higher level of the listed rate ranges when weeds approach 3 inches or when weeds are drought stressed.

B. Weeds Controlled (Post-Directed)

When applied as a directed postemergence spray according to label directions, PROBE Herbicide will control the following broadleaf weeds:

- | | |
|-----------------------|-------------------------|
| anoda, spurred | pusley, Florida |
| carpetweed | sesbania, hemp |
| cocklebur, common | sicklepod |
| lambsquarters, common | sida, prickly (teaweed) |
| morningglory (annual) | spurge, prostrate |
| pigweed | spurge, spotted |
| purslane | |

C. Postemergence Tankmix and Sequential Overlay Treatments

Tankmixes

PROBE Herbicide may be tank mixed with one or more of the following herbicides for control of grasses and improved control of broadleaf weeds. Read and follow the label of each tank mix product used for precautionary statements, directions for use, rates and timings and other restrictions. Use an agriculturally approved non-ionic surfactant with all PROBE Herbicide postemergence tank mix applications.

PROBE Herbicide plus DSMA. Apply after cotton is three inches high and before the first bloom. Do not make more than two applications. Use 3.6 lbs. a.i. DSMA per treated acre.

PROBE Herbicide plus MSMA. Apply after cotton is three inches high and before the first bloom. Do not make more than two applications. Use 2.0 lbs. a.i. MSMA per treated acre.

PROBE Herbicide plus cyanazine (Bladex). Apply after the cotton is six inches high. Use 0.6 to 1.0 lb. a.i. cyanazine per treated acre.

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Overlay (Sequential) Treatments

PROBE Herbicide may be applied to ground previously treated with one or more of the following herbicides:

<u>HERBICIDE</u>	<u>MAXIMUM RATE PER TREATED ACRE (lbs. a.i.)</u>
diuron (Karmex, other name brands)	1.6
fluometuron (Cotoran)	2.0
norflurazon (ZORIAL)	2.0
pendimethalin (Prowl)	1.5
prometryn (Caparol)	2.8
trifluralin (Treflan, other name brands)	1.0

Read and follow the label of each of the above products for precautionary statements, directions for use and other restrictions.

REGISTERED TRADEMARKS

Prowl is a registered trademark of American Cyanamid Company.

Caparol and Cotoran are registered trademarks of Ciba-Geigy Corporation, Agricultural Division.

Bladex and Karmex are registered trademarks of E. I. duPont de Nemours and Co., Inc.

Treflan is a registered trademark of Elanco Products Company, (a division of Eli Lilly and Co.).

PROBE Herbicide and ZORIAL Rapid 80 are registered trademarks of Sandoz Ltd.