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DIRECTIONS FOR USE

BEFORE APPLYING MARKSMAN HERBICIDE READ AND FOLLOW THE PRECAUTIONS APPEARING ON THE CONTAINER.

APPLICATION FOR WEED CONTROL IN FIELD, SEED*, AND SILAGE CORN

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ACCEPTED

MAR 23 1987

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 55947-39

IMPORTANT

*Do not apply Marksman herbicide to seed corn without first verifying with your local seed corn company (supplier) the Marksman selectivity on your inbred line. This precaution will help avoid potential injury of sensitive varieties. Also follow this precaution before application to any specialty type corn.

Marksman is not registered for use on sweet corn and popcorn.

Do not contaminate irrigation ditches or water used for domestic purposes.

Atrazine leaches readily and accepted label rates have been found to result in contamination of water supplies by way of ground-water. Therefore users are advised to avoid use of atrazine in well drained soils, particularly areas having high ground-water tables.

Surfactants (nonionic) added to a spray mixture may improve weed control but do not apply any adjuvant which contains penetrants such as petroleum and crop oils-after corn emergence, crop injury could result.

Up to two applications of Marksman Herbicide may be made up to the 5th true leaf stage. Do not exceed a total of 5 1/4 pints Marksman Herbicide per treated acre per crop year. Consult rates and timing section and do not exceed rates of application for any given time of application.

Banvel herbicide can be applied before or after a Marksman treatment, but must be considered in calculating allowed number of applications and maximum total use rates. Use below listed formula to determine various allowable combinations and also consult the rates and timing section.

MARKSMAN (Pt./treated ac./season)	+	BANVEL (Pt./treated ac./season)	=	MAXIMUM SEASONAL USE RATE
3 1/2		1/2		

ROTATIONAL CROPS: Marksman contains some atrazine (.26 lbs./pint) so follow these directions: (1) Do not rotate to any crop except corn or sorghum until the following year, or injury may occur. (2) If applied after June 10, do not rotate with crops other than corn or sorghum the next year, or injury to the rotated crop may occur. (3) If the total broadcast rate or equivalent band application rate of atrazine or atrazine plus simazine totals more than 3.3 lb. A.I./A, a crop of untreated corn or sorghum should precede the next rotational crop. Several products, such as Marksman contain some atrazine and the amount applied per acre must be included in total calculations. (4) In the High Plains and intermountian areas of the West, where rainfall is sparse and erratic or where irrigation is required, use only when corn or sorghum is to follow corn or sorghum or when a crop of untreated corn or sorghum is to precede other rotational crops. (5) In eastern parts of the Dakotas, KS, western MN and NE, do not rotate to soybeans if application(s) of atrazine or atrazine plus simazine applied to corn total more than 2.0 lb. A.I./A or equivalent band application rate or soybean injury may occur. (6) Injury may occur to soybeans planted the year following application on soils having a calcareous surface layer. (7) Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small-seeded legumes and grasses the year following application, or injury may occur.

SENSITIVE CROP PRECAUTIONS: Marksman herbicide may cause injury to desirable broadleaf plants and trees, when contacting their roots, stems or foliage. To avoid potential off-target herbicide movement:

- Do not apply Marksman in general vicinity of tobacco and tomatoes.
- Use nozzles designed to produce large spray droplets such as Delavan Raindrops Spraying Systems, LP flat fans or large capacity flood nozzles such as Delavan D10, Spraying Systems TK10 - or greater capacity
- Use a spray pressure of 20 psi or less, 10 gpa spray volume or more.
- Marksman Herbicide is intended for early season application. Although off-target movement is usually not significant at that time, Sandoz Crop Protection does recommend certain precautions be taken. Do not make application when high winds are moving towards sensitive crops, inversions are present or high temperatures are expected on the day of application.

Corn growing under stress-including but not limited to moisture, low temperatures, drought, hail and poor fertility can exhibit various injury symptoms that may be more pronounced if herbicides are applied.

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

REFER TO THE CONTAINER LABEL FOR INSTRUCTIONS CONCERNING DISPOSAL OF WASTE AND CLEANING RINSES.

MIXING AND APPLICATION

Marksman herbicide is a water-dispersible formulation that can be applied using water or sprayable fluid fertilizer as the carrier. Use of sprayable fluid fertilizer carrier after the corn emerges may result in crop injury. If a fluid fertilizer is to be used, a compatibility test (see compatibility test on page) should be made prior to tankmixing.

Ground or aerial application equipment which will give good spray coverage of weed foliage should be used. However, do not use aerial application equipment if broadleaf crops are growing in the vicinity of the area to be treated.

Before making application, be sure all equipment is clean and not contaminated with any other materials or crop injury or sprayer clogging may result.

Apply 10 to 50 gallons of diluted spray per treated acre when using ground application equipment, or 3 to 10 gallons of diluted spray per treated acre when using aerial application equipment. Use the higher level of the listed spray volumes when treating dense or tall vegetation. Use coarse sprays. Thoroughly clean equipment following applications of Marksman herbicide. Any tankmix with a water-dispersible formulation will require the use of a water/detergent rinse.

Avoid cultivating treated areas for at least seven days following postemergence application.

BAND TREATMENTS

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

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast RATE per treated acre} = \text{Band RATE per treated acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast VOLUME per treated acre} = \text{Band VOLUME per treated acre}$$

COMPATIBILITY TEST

Before mixing 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 or layers, or other precipitates, then the tested spray mix is compatible. Usually 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 fluid fertilizer).

WEEDS CONTROLLED

Marksman herbicide, when applied at recommended rates, will control many ANNUAL broadleaf weeds and give growth suppression of many PERENNIAL broadleaf weeds commonly found in corn.

ANNUALS

buckwheat, wild
burcucumber
chickweed, common
clovers (annual)
cocklebur, common
cucumber, wild
jimsonweed
knotweed
kochia
kochia (triazine resistant)
ladysthumb
lambsquarters, common
lambsquarters (triazine resistant)
mallow, common
mallow, Venice
morningglory, ivyleaf
morningglory, tall
mustard, wild
mustards, (yellowtops)
nightshade, black
pigweed, prostrate
pigweed, redroot (carelessweed)
pigweed, rough
pigweed, smooth
pigweed (triazine resistant)
pigweed, tumble
puncturevine
purslane, common
ragweed, giant (buffaloweed)
sicklepod
sida, prickly (teaweed)
smartweed, green
smartweed, Pennsylvania
Spanishneedles
spurge, prostrate
sunflower, common (wild)
sunflower, volunteer
tansymustard
thistle, Russian
velvetleaf

PERENNIALS

alfalfa
artichoke, Jerusalem
bindweed, field
bindweed, hedge
clovers (perennials)
dandelion, common
dock, broadleaf (bitterdock)
dock, curly
dogbane, hemp
horsenettle, Carolina
lespedeza
milkweed, common
smartweed, swamp
thistle, Canada
vetch

RATES AND TIMING

PREPLANT/PREEMERGE IN NO TILLAGE CORN

Applications of Marksman may be made before, during, or after planting to emerged and actively growing broadleaf weeds. Apply Marksman at 3 1/2 pints per treated acre on medium or fine textured soils containing 2% or more organic matter. This rate also applies to all soils containing greater than 8% organic matter. Use 2 pints per treated acre on coarse soils (sand, sandy loam, and loamy sand.) containing 2% or more organic matter.

The addition of an agriculturally approved surfactant, crop oil, or petroleum oil to the spray mixture may improve weed control - oil or other such penetrants are not to be applied after corn emergence.

When planting into a legume sod (e.g., alfalfa or clover), apply Marksman Herbicide after 4-6 inches of regrowth has occurred.

PREEMERGENCE IN CONVENTIONAL OR REDUCED TILLAGE CORN

Marksman Herbicide may be applied after planting and prior to corn emergence. Application of 3 1/2 pints per treated acre may be made to medium or fine texture soils which contain 2% or greater organic matter. DO NOT apply to coarse soils or any soil with less than 2% organic matter.

The addition of an agriculturally approved surfactant, crop oil, or petroleum oil to the spray mixture may improve weed control - oil or other such penetrants are not to be applied after corn emergence.

Preemergence application of Marksman Herbicide does not require mechanical incorporation to become active. A shallow mechanical incorporation is recommended if application is not followed by adequate rainfall or sprinkler irrigation. Avoid tillage equipment (e.g.,. drags, harrows) which concentrate treated soil over seed furrow.

EARLY POST EMERGENCE (ALL TILLAGE SYSTEMS)
(Emergence to 5th true leaf stage)

Marksman Herbicide at 3 1/2 pints per treated acre may be applied during the period from corn emergence through the 5th true leaf stage. For corn growing on coarse textured soils (sand, sand loam, loamy sand), reduce the rate to 2 pints per treated acre. The addition of an agriculturally approved nonionic surfactant to the spray mixture may improve weed control. However, do not use adjuvants containing penetrants such as petroleum and crop oils after crop emergence - injury may result.

OVERLAY (SEQUENTIAL TREATMENTS)

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

Herbicide	Maximum rate per treated acre (lbs. a.i.)
Alachlor (Lasso®)	4
Atrazine (see Important Section-Rotational Crops)	3
Bronco® (alachlor + glyphosate premix)	5
butylate (Sutan + ®)	6
cyanazine (Bladex®)	4
EPTC (Eradicane®)	6
glyphosate (Roundup®)	5
metolachlor (Dual®)	3
paraquat	1
pendimethalin (Prowl®)	2
propachlor (Bexton®, Ramrod®)	6

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

TANKMIX TREATMENTS

Marksman herbicide will control emerged and actively growing broadleaf weeds when applied prior to, during, or after planting but before the corn exceeds the 5 leaf stage. Marksman herbicide may be tankmixed with one or more of the following herbicides for control of grasses or additional broadleaf weeds. When tankmixing Marksman with other products, read the label of each tankmix partner for precautionary statements, directions for use and other restrictions. Also, read the Marksman label.

Marksman PLUS BLADEX: Application may be made before grasses are 1 1/2 inches tall and the corn is not beyond the four true leaf stage. Use 1.25-4.0 lbs. a.i. Bladex per treated acre for preemergence and 1.25-2.0 lbs. a.i. for postemergence treatments. AFTER CORN EMERGENCE, USE ONLY THE BLADEX 80W FORMULATIONS.

Marksman PLUS DUAL: Application may be made until grasses reach the two-leaf stage and before corn is greater than 3 inches tall. Applications prior to crop emergence should only be made to fine textured soils containing 2.5% or more organic matter. Use 1.5-2.5 lbs. a.i. Dual per treated acre.

Marksman PLUS LASSO: Application may be made until grasses reach the two-leaf stage and before corn is greater than 3 inches tall. Applications prior to crop emergence should only be made to fine textured soils containing 3.0% or more organic matter. Use 1.5-4.0 lbs. a.i. Lasso per treated acre.

Marksman PLUS PARAQUAT: Application may be made to emerged weeds, but before corn emerges. Use 0.25-1.0 lb. a.i. paraquat per treated acre.

Marksman PLUS PROWL: Application may be made immediately after planting but not past the 2-leaf corn growth stage or when weeds are no more than 1 inch tall. Do not apply following preemerge Prowl applications. Before corn emergence, do not apply on coarse textured soils or any soil with less than 2.5% organic matter. Prowl rates range from 1.0 - 2.0 lbs. a.i. per treated acre - depending on soil type and organic matter. Consult Prowl label.

Marksman PLUS ROUNDUP: Application may be to emerged weeds, but before corn emerges. Use 1.0-3.0 lbs. a.i. Roundup per treated acres.

Marksman PLUS ATRAZINE: For additional broadleaf weed control apply after planting but before the corn exceeds the 5 leaf stage. See Rates and timing section for soil type and organic matter restrictions, plus the Important section for rotational restrictions. Refer to table below for rates.

Soil Texture	Marksman Rate	Maximum Atrazine rate per Treated Acre
Medium	3-1/2 pts.	1.5 lbs. A.I.
Fine	3-1/2 pts.	2.1 lbs. A.I.

Peat, muck, and high organic clay - Do not apply preemerge.

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Bronco®, Lasso®, Ramrod®, and Roundup® are registered trademarks of Monsanto Agricultural Products Company.
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