Oregon
John A. Kitzhaber, M.D., Governor

Department of Agriculture
635 Capitol Street NE
Salem, OR 97301-2532

July 6, 2000

Elaine M. Stewart
600 NE Grand Avenue
Portland, OR 97232-2736

This will confirm receipt of your E-mail of May 10, 2000. As you requested, enclosed is a copy of investigation report #003279. As discussed, the photographs are in the process of being reprinted and will be forwarded to you at a later date along with an invoice.

If you have any questions or need any further information, please do not hesitate to call.

Dale L. Mitchell
MJB

Dale L. Mitchell
Assistant Administrator
Pesticides Division
PH: (503) 986-4635
FAX: (503) 986-4735

Enclosures

DLM/mjb

Oregon
John A. Kitzhaber, M.D., Governor

Department of Agriculture
635 Capitol Street NE
Salem, OR 97301-2532

TO: ODA File **DATE:** June 19, 2000

FROM: Brent Nicolas, Pesticide Investigator, District 1

SUBJECT: ODA NUF #003279
C & R REFORESTATION / FORESTER, SCOTT

RELATED CASES

SYNOPSIS: ALLEGATION THAT APPLICATION OF MONSANTO RODEO HERBICIDE LED TO DEATH OF BEAVER(S) AT SMITH-BYBEE LAKES IN PORTLAND, OR.

DATE OF INVESTIGATION: May 1, 2000

	Name/Address/Phone	License#/ Type/ Categories	Status
OPERATOR	C & R REFORESTATION 3214 NE 76TH PORTLAND OR 97213 503/257-0851	151105 67	A
APPLICATOR	EHLERT, KEVIN R 3214 NE 76TH PORTLAND OR 97213 503/968-5918	154230 69	A
APPLICATOR	EVERSON, KEN L 3214 NE 76TH PORTLAND OR 97213 503/968-5918	154231 69	A
APPLICATOR	WINSTON, ROBIN J 3214 NE 76TH PORTLAND OR 97213 503/257-0851	105694 68	A
PUBLIC AGENCY	HOY, VALERIE PORTLAND OR 97213 503/731-3027 EXT 409	 OREGON STATE POLICE - FISH & WILDLIFE DIVISION	
PUBLIC AGENCY	STEWART, ELAINE 600 NORTHWEST GRAND AVENUE PORTLAND OR 97232-2736 503/797-1515	 SMITH & BYBEE LAKES WILDLIFE AREA MANAGER	METRO
PUBLIC AGENCY	SCHILLER, JIM 1120 SW 5TH AVE, ROOM 100 PORTLAND OR 97204-1912 503/823-2366	 BOTANIC SPECIALIST - WATERSHED REVEGETATION SPECIALIST	CITY OF PORTLAND
OTHER INTERESTED PARTIES	FORESTER, SCOTT 2030 NW 7TH PLACE PORTLAND OR 97030 503/442-1593	 	

DATE AND TIME
OF APPLICATION: March 28, 2000 9:00 am 6:00 p.m.

APPLICATION TYPE: ORN-Herbicide

LOCATION OF APPLICATION: Smith Lake, Portland, Oregon, found to be in the vicinity of

SITE OF APPLICATION: Lake shore.

PESTICIDES INVOLVED:

TYPE	ACTIVE INGREDIENT	MANUFACTURER	TRADE NAME	EPA REG#
Herbicide	Glyphosate	Monsanto	Rodeo	524-343

MIXING RATE AND DILUENT: 2 % solution

RATE OF APPLICATION: 2 % solution

PURPOSE OF APPLICATION: Vegetation control

METHOD OF APPLICATION: Backpack sprayer and hand gun power sprayer

SAMPLE INFORMATION:

SAMPLE #	SAMPLE ID	SUBSTRATE	ANALYSIS #1	ANALYSIS #2	ANALYSIS #3
N/A					

SAMPLE OTHER: N/A

PHOTOGRAPHS: ● Yes ○ No 13 color photographs with negatives.

LICENSE REVIEW: C &R Reforestation licensed as Commercial Pesticide Operator at time of Application. All applicators licensed at the time of application.

LABEL REVIEW: Monsanto Rodeo Herbicide labeled for use

REGISTRATION REVIEW: Monsanto Rodeo Herbicide registered for sale and distribution in Oregon at the time of application.

C & R REFORESTATION / FORESTER, SCOTT

ODA NUF INV # 003279

NARRATIVE

April 25, 2000

Valerie Hoy - Oregon State Police called and spoke with Dale Mitchell. She said she had recently had conversations with a Scott Forester. Forester claimed to have been canoeing in Bybee Lake and found a dead beaver. He said the animal was near a METRO sign. The vegetation around the sign was allegedly dead. Forester surmised it was from an application of Monsanto Rodeo Herbicide . He further speculated that the Beaver had come in contact with the Rodeo and had died as a result of the exposure.

Forester had repeatedly contacted Hoy since that time and about the beaver. Hoy asked about storage and testing of the animal. She was told to bag it and freeze it. She told Mitchell she was going to Bybee Lake to look for the carcass.

Hoy was unable to locate the beaver.

April 28, 2000

Mitchell spoke with Elaine Stewart - Wildlife Manager for METRO. She has had current and previous contact with Forester regarding the beaver(s) and other issues. She said the complainant found the beaver. According to a conversation with OSU, the beaver(s) were described as being in a such a state of decomposition that a necropsy would be futile in determining cause of death.

ODA Pesticide Investigator Brent Nicolas arranged to meet with Stewart at the Metro headquarters in Portland, Oregon.

May 1, 2000

Nicolas met with Stewart and City of Portland Botanic Specialist Jim Schiller. Stewart said they had contracted with C&R Reforestation to apply Monsanto Rodeo herbicide(EPA Reg# 524-343) at the lakes. She said they were in the process of reestablishing native vegetation and wanted to get rid of reed canary grass which had taken over a lot of the lake shore. She said they had applied the Rodeo to swampy areas in a spot treatment application and in a broadcast application with power equipment in other places. They chose Rodeo herbicide as it was labeled for wildlife habitat restoration sites and for treating aquatic sites as well in the unlikely event of drift into the lake water.

C&R Reforestation was licensed as a Commercial Pesticide Operator and the applicators possessed Commercial Pesticide Applicators licenses at the time of application. Schiller provided Nicolas with a copy of the pesticide application record for that day.

Stewart and Nicolas drove to Smith-Bybee Lakes. They walked the application areas. Over a month had expired since the March 28, 2000 application. The areas of application were very visible. Circular areas of dead grass were found surrounded by green vegetation. The broadcast application to arms of the lake shore showed broad areas of dead grass. The vegetation closest to the water was green. There were no visible signs of application to the water (which would have been allowable by the label).

Stewart said she had seen a dead beaver near the broadcast application area. She said it appeared to have been there for a while. She said the best she could describe the condition of the animal is that is was "half-dissolved into the ground." She said Forester had obtained a permit and had taken possession of the animal and was considering having the beaver analyzed for pesticides.

Nicolas spoke with Robin Winston, owner of C&R Reforestation. He stated he and his employees applied the Rodeo Herbicide with backpack sprayers and powered equipment. He said they had taken care not to spray the herbicide into the water. He could not recall any out of the ordinary about the application.

A review of the Monsanto Rodeo Herbicide label found its use at the Smith-Bybee lakes to be permissible. As the product is labeled for use directly in water, any errant or intentional spraying by C&R Reforestation to the waters of either lake would have been permissible by the Rodeo label. The application appeared to have been applied in a manner which was not faulty, careless, or negligent.

June 15, 2000

Nicolas spoke with Scott Forester. Nicolas explained that the Department was finishing its investigation and was curious as to the disposition of the beaver. Forester said he had not had the beaver analyzed as he was looking for a lab to do the analysis. He said he had received varying opinions of the ability of the labs to find the active ingredient glyphosate in the animal. Nicolas told him the the ODA laboratory found glyphosate difficult to find in many sample types, including water, soil, and vegetation. Forester said he had heard this from ODA 's lab himself.

Forester said he heard that Nicolas had made the determination that the beaver had not been killed by the Rodeo prior the investigation being terminated. Nicolas said he not made such a statement. Nicolas did say he had made statement that to his knowledge of the nature of glyphosate, that for it to kill the beaver was highly unlikely. Forester took exception to what Nicolas said. Forester made reference to a report he had obtained which stated that animals exposed to glyphosate could experience a reduction in appetite and starve to death.

Nicolas explained the role of ODA in this investigation was to review the application and licensing requirements for violations of Oregon Revised Statute 634. Nicolas told him that the the operator, C&R Reforestation had been licensed appropriately and the pesticide used was applied according to label directions. Nicolas explained further that ODA had opted not to analyze the beaver as the likelihood of confirming the presence of glyphosate in the animal's tissue would be slim due to many factors including the composition and degradation of the active ingredient. He further added that a necropsy by a licensed vet which confirmed the death of the beaver would be of interest to ODA. It is ODA's understanding that the beaver was described as being in a advanced state of decomposition.

Forester wanted to know who had passed this information to ODA. He said he had the beaver and when he found it it appeared to have "recently" died. Forester said there was another dead beaver which was in an advanced state of decomposition near where the application had taken place. His opinion was that this was the beaver that was described to ODA and not the one in his possession. He felt that ODA was given insufficient information for conducting its investigation. He said he was also of the opinion that this was a deliberate action made to cover up any wrong doing by the City of Portland and METRO.

CONCLUSION

Based on the information provided and available through this investigation, ODA is unable to confirm or deny the correlation of the cause of death of the beaver as being related to the application of Glyphosate by C& R Reforestation. If additional information becomes available regarding the disposition or cause of death of the beaver, ODA will evaluate and consider these findings to determine if sufficient evidence exist to support a violation of ORS 634.

ATTACHMENTS

Pesticide Complaint Log Form
Pesticide Application Record
Commercial Pesticide Operator License Information - C&R Reforestation
Commercial Pesticide Applicator License Information - Winston, Robin
Immediately Supervised Commercial Pesticide Trainee - Hebert, Kevin
Immediately Supervised Commercial Pesticide Trainee - Pearson, Ken
Monsanto Rodeo Herbicide Specimen Product Label

5/15/00

Pesticide Complaint Log

ODA Rep Nicolas | Date 04/25/00 | Name Valerie Hoy - O S P, Scott Forester

Address | City Portland | State OR | Zip

County Multnomah | Ph/H CELL - 503/795-0764 | Ph/W 503-731-3027 ext 409

Received From
☐ Complainant ☐ DEQ ☐ HD ☐ OERS ☐ OSDF ☐ SFM
☐ Contractor's Board ☐ EPA ☐ ODF&W ☐ OROSHA ☐ PARC ☒ Other...

Relationship
☒ Another Agency ☐ Customer ☐ Former Employee ☐ Neighbor ☐ Other...
☐ Competitor ☐ Employee ☐ Interested Party ☐ Unknown

Nature
☐ Business Practices ☐ Product Registration ☐ Use Agricultural ☒ Use Non-agricultural
☐ Distribution ☐ Right of Way ☐ Use Aquatic ☐ Use Structural Exterior
☐ Licensing ☐ Structural Inspection ☐ Use Forestry ☐ Use Structural Interior
☐ Pesticide Residue ☒ Use ☐ Use Lawn Care ☐ Other...

Application Method
☐ Air ☐ Aquatic ☐ Chemigation ☐ Fumigation ☒ Ground ☐ Structural ☐ Unknown

Pesticide Type
☐ Avicide ☐ Fungicide ☐ Insecticide ☐ Rodenticide
☐ Fumigant ☒ Herbicide ☐ Nematicide ☐ Other...

Product Name: Rodeo

Application Date: 3/28/00 | Application Time: am | Crop: Grass

Operator Name: C & R Reforestation

Address: 3214 Ne 76th | City: Portland | State: OR

Zip: 97213 | Phone/H | Phone/W: 503/257-0851

Licensed: ☒ Yes ☐ No | License No: 151105 | License Type: 67 | Status: A

Applicator Name: Various

Address | City | State | Zip | Phone/H | Phone/W

Licensed: ☐ Yes ☒ No | License No | License Type | Status

ROL Sent: ☐ Yes ☒ No | Date Sent | Invest Initiated: ☒ Yes ☐ No | Date Initiated: 5/1/2000 | Log No: 003279

Investigation Type | Case Name: C&r Reforestation / Forester, Scott | Investigator: Nicolas

Why No Investi
☐ Civil Matter ☐ Insufficient Information ☐ No Violation of ORS 634
☐ Information Only ☐ No Response ☐ Referral to Another Agency

Agency: OSP | Date of Referral: 4/25/00 | Adverse Health Claimed: No

Summary

4/25/00 - Valerie Hoy - Oregon State Police called and spoke with Dale Mitchell. She said she had recently had conversations with a Scott Forester. Forester had claimed to have been canoeing in Bybee Lake and found a dead beaver. He said the animal was near a METRO sign. The vegetation around the sign was allegedly dead. Forrester surmised it was from an application of Roundup. He further speculated that the Beaver had come in contact with the Roundup and had died as a result of the exposure.

Forester has repeatedly contacted Hoy since that time and has demanded "environmental justice" for the beaver. Hoy asked about storage and testing of the animal. She was told to bag it and freeze it. She told Mitchell she was going to Bybee Lake to look for the carcass.

No investigation by ODA planned at this time, may reconsider if information arises.

4/28/00 - Mitchell spoke with Elaine Stewart - Wildlife Manager for METRO(503)797-1515. She has had current and previous contact with Forester regarding the beaver(s) and other issues. The complainants

Pesticide Complaint Log

ODA Rep Nicolas

Date 4/25/2000

Name Valerie Hoy - O S P, Scott Forester (Continued)

Summary

4/28/00 - Nicolas spoke with Stewart. They arraigned to meet at METRO in Portland with the applicator Jim Schiller (503-823-2366), Botanic Specialist with City of Portland Environmental Services on 5/1.

5/1/00 - Nicolas met with Schiller (503-823-2366) and Stewart. Stewart brought an aerial photo of the lakes and application site. Schiller (503-823-2366) said the applicator was C&R Reforestation. He said Rodeo was used because of the proximity to water. The project was to kill reed canary grass in an effort to reestablish native trees and shrubs into the area. Schiller (503-823-2366) provided Nicolas with a copy of the application record.

Nicolas went with Stewart to Smith-Bybee Lakes. They walked the application areas. The Rodeo had been applied in a spot and broadcast application. Nicolas noted the contrast in dead vegetation to the sprayed vegetation. From the dead vegetation, it was apparent that drift into the waterway did not happen. Drift into the water was allowable by the Rodeo label.

C&R Reforestation
P.O. Box 1180
WINSTON, OR 97496

- Industrial Weed Abatement
- Brush Control
- Commercial Property Maintenance

PESTICIDE APPLICATION RECORDS

① FULL NAME, ADDRESS AND PHONE NUMBER OF BUSINESS, FIRM OR PERSON WHO OWNS OR CONTROLS THE CROP / PROPERTY SPRAYED. DO NOT USE INITIALS, NICKNAMES OR PARTIAL NAMES

FIRM	PERSON: LAST	FIRST	MIDDLE
CITY OF PORTLAND BUREAU OF ENVIRONMENTAL SERVICES		JIM	SCHILLER

ADDRESS: STREET	APT. #	CITY	STATE	ZIP	PHONE (INCLUDING AREA CODE)
1120 SW FIFTH AVENUE, ROOM 1100		PORTLAND	OR		(503) 823-2366

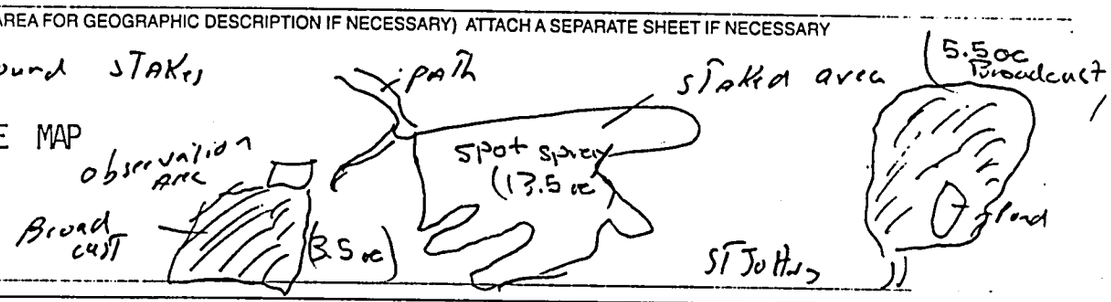
② ADDRESS OF THE SITE, OR A GEOGRAPHIC DESCRIPTION OF THE APPLICATION SITE (SUCH AS CIRCLE NUMBER, MAP NUMBER OR TOWNSHIP / SECTION / RANGE), AND THE SIZE OF THE AREA TREATED (ACRES, SQUARE FEET, LINEAR FEET, ETC.)

ADDRESS OF SITE: Smith Lake

AREA BEING TREATED (USE THIS AREA FOR GEOGRAPHIC DESCRIPTION IF NECESSARY) ATTACH A SEPARATE SHEET IF NECESSARY

3' diameter around STAKES

SEE MAP



③ DATE OF APPLICATION (BEGINNING & ENDING)

	TIME	MONTH	DAY	YEAR		TIME	MONTH	DAY	YEAR
BEGINNING:	9:00	March	28	2000	ENDING:	3:00	March	28	
	9:00	March	28	2000		6:00	March	30	2000

④ SUPPLIER OF PESTICIDE PRODUCT(S) APPLIED (DO NOT USE INITIALS, NICKNAMES OR PARTIAL NAMES)

WILBUR ELLIS COMPANY

FULL NAME OF PERSON OR BUSINESS

⑤ TRADE NAME AND STRENGTH OF PESTICIDES APPLIED

	NAME OF PESTICIDE	EPA REGISTRATION NUMBER -OR- MANUFACTURER & FORMULATION TYPE
1	~~ROUNDUP PRO~~	~~524-475~~ LIQUID
2	Rodeo	524-343
3		

ATTACH A SEPARATE SHEET IF NECESSARY

⑥ AMOUNT OR CONCENTRATION (POUNDS OR GALLONS PER ACRE OF ACTIVE INGREDIENT OR CONCENTRATION PER APPROX. 100 GALLONS)

	AMOUNT OF EACH PESTICIDE PRODUCT APPLIED PER UNIT OF MEASURE (OUNCES, POUNDS, PINTS, QUARTS, ETC.)	TYPE & AMOUNT OF CARRIER APPLIED PER UNIT OF MEASURE (ACRE, SQUARE FEET, ETC.) - OR - WHERE A SPECIFIC UNIT OF MEASURE IS NOT APPLICABLE, THE TOTAL AMOUNT APPLIED TO THE SITE	AMOUNT & TYPE OF OTHER MATERIAL APPLIED (SUCH AS SPREADER / STICKER, WETTING AGENT OR DRIFT RETARDANT)
1	2% SOLUTION	510 gallons	BLAZON DYE
2		Applied To Sites	NO - Surfactants
3			

ATTACH A SEPARATE SHEET IF NECESSARY

⑦ SPECIFIC PROPERTY, CROP OR CROPS TO WHICH THE PESTICIDE WAS APPLIED

	AGRICULTURAL APPLICATIONS - THE SPECIFIC CROP	"PCO GENERAL" & "PCO STRUCTURAL" APPLICATIONS - THE SPECIFIC AREA (EXTERIOR WALL VOIDS, KITCHEN CABINETS, INTERIOR FOUNDATION, LIVINGROOM BASEBOARDS, ETC.)	ORNAMENTAL APPLICATIONS - THE GENERAL AREA (FRONT YARD, HEDGE, FRUIT TREE, ETC.)	OTHER APPLICATIONS - DESCRIPTIONS SIMILAR TO PREVIOUS EXAMPLES
1	HABITAT MANAGEMENT. CONTROL OF UNDESIRABLE VEGETATION IE. REED CANARY GRASS			
2				
3				

ATTACH A SEPARATE SHEET IF NECESSARY

⑧ SUMMARY INFORMATION OF EQUIPMENT, DEVICE OR APPARATUS USED AND, IF APPLIED BY AIRCRAFT, THE F.A.A. NUMBER

BACK PACK SPRAYER (CP-3) + HAND GUN

IDENTIFICATION OF APPLICATION EQUIPMENT USED (AEROSOL CAN, SPEED SPRAYER, BACKPACK SPRAYER, FOGGER, ETC.) AND, IF APPLIED AERIALLY, THE "N" NUMBER OF THE AIRCRAFT

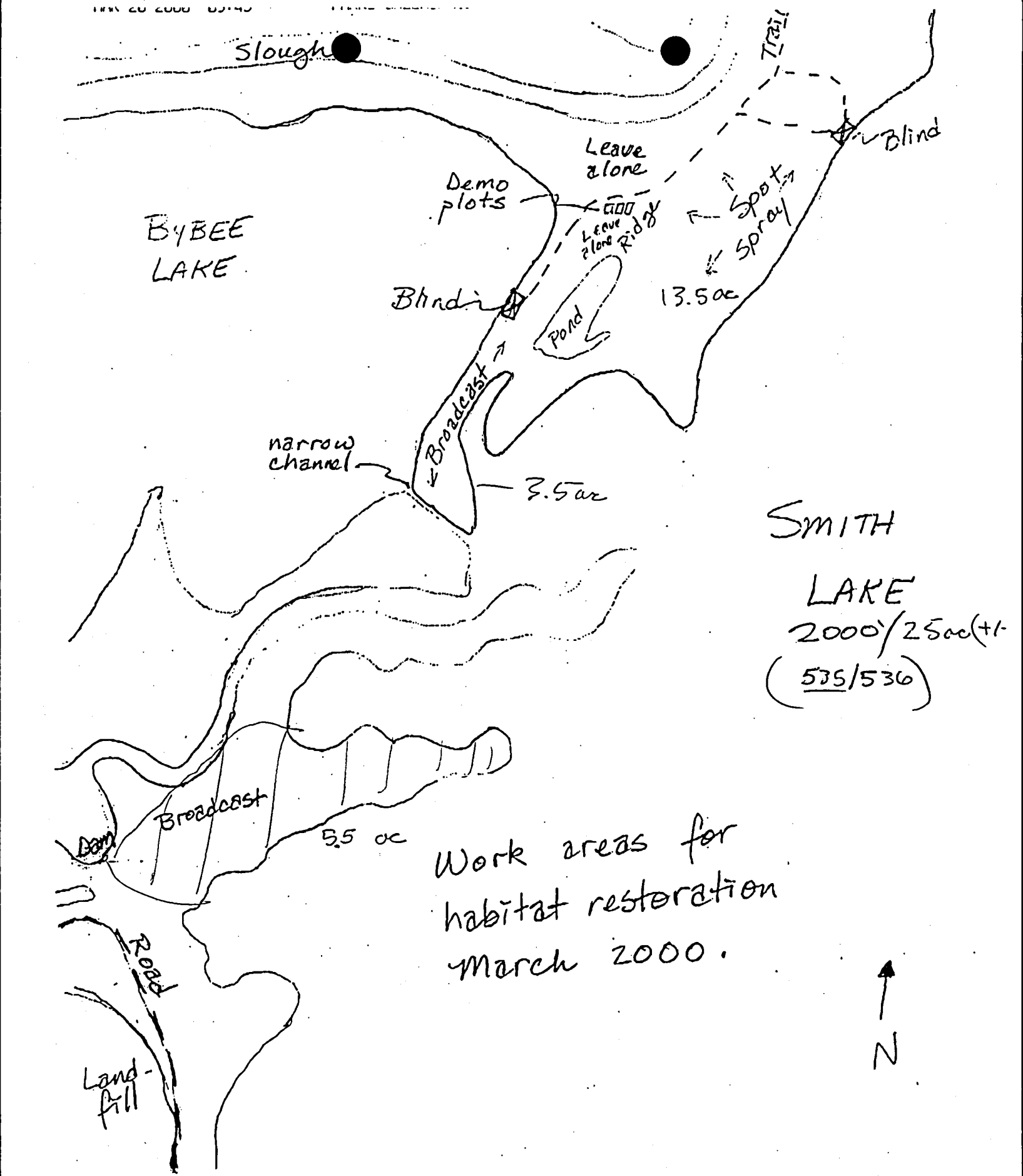
⑨ NAME OF APPPLICATOR(S) OR TRAINEE(S) WHO APPLIED THE PESTICIDES

Robin Winston, Ken Pearson, Kevin Hebert

FULL NAME

⑩ RECORDS SHALL BE MAINTAINED FOR AT LEAST THREE YEARS FROM THE DATE OF APPLICATION

FOR ADDITIONAL COMMENTS, ATTACH A SEPARATE SHEET


Slough
Trail
Blind
Leave alone
Demo plots
Leave alone Ridge
Spot spray
BYBEE LAKE
Blind
13.5 ac
Pond
Broadcast
narrow channel
3.5 ac
SMITH LAKE
2000'/25ac(+/-
(535/536)
Broadcast
Dam
5.5 ac
Work areas for habitat restoration march 2000.
Road
Land-fill
N

TOTAL P.02

OREGON DEPARTMENT OF AGRICULTURE / LICENSING INFORMATION Date printed: 05/05/2000

Mail #: 149350 Firm #: 149350 License Type: 67 License Number: 151105

Mail Name: C & R REFORESTATION
3214 NE 76TH

PORTLAND, OR 97213

Contact: ROBIN WINSTON

Mail Phone: 503/257-0851
Mail Fax: 503/330-3477
Mail County: MULTNOMAH
Mail Status: A

Firm Name: C & R REFORESTATION
3214 NE 76TH

PORTLAND, OR 97213

Contact: ROBIN WINSTON

Firm Phone: 503/257-0851
Firm Fax: 503/330-3477
Firm County: MULTNOMAH
Firm Status: A

License Type: Commercial Pesticide Operator (67)

License Status: A I Quantity: 4 0 Insp: Seasonal Months: 0 0
Required: 0 0

Cert Dates: ********** ********** Miscl: Cross Ref: 105694
Initiated: 06/03/1999 Entry: 04/24/2000
Renewed: 04/20/2000 Expires: 12/31/2000 License Fee: 85.00 Lic Balance: 0.00
Penalty Fee: 0.00 Penalty Bal: 0.00

Insurance Carrier: NORTH PACIFIC INS. CO Expires: 05/01/2001
Policy Number: C05-14-46-99

License Categories
- AGRICULTURE
  - AG-INSECT/FUNGI
  - AG-HERBICIDE
- FOREST
- RIGHT OF WAY
- ORNAMENTAL AND TURF
  - ORN-INSECT/FUNGI
  - ORN-HERBICIDE
  - GROUND - NO FEE

OREGON DEPARTMENT OF AGRICULTURE / LICENSING INFORMATION Date printed: 05/05/2000

Mail #: 078115 Firm #: 078115 License Type: 68 License Number: 105694

Mail Name: WINSTON, ROBIN J
3214 NE 76TH

PORTLAND, OR 97213

Mail Phone: 503/257-0851
Mail Fax: 503/330-3477

Mail County: MULTNOMAH

Contact:

Mail Status: A

Firm Name: WINSTON, ROBIN J
3214 NE 76TH

PORTLAND, OR 97213

Firm Phone: 503/257-0851
Firm Fax: 503/330-3477

Firm County: MULTNOMAH

Contact:

Firm Status: A

License Type: Commercial Pesticide Applicator (68)

License Status: A I	Quantity:	4	0	Insp: X	Seasonal Months:	0	0
	Required:	0	0				

Cert Dates: 01/01/2000 12/31/2004 Miscl: RE Cross Ref: 151105
Initiated: 02/01/1987 Entry: 04/24/2000
Renewed: 02/17/2000 Expires: 12/31/2000 License Fee: 0.00 Lic Balance: 0.00
Penalty Fee: 0.00 Penalty Bal: 0.00

License Categories

- AGRICULTURE
  - AG-INSECT/FUNGI
  - AG-HERBICIDE
- FOREST
- RIGHT OF WAY
- ORNAMENTAL AND TURF
  - ORN-INSECT/FUNGI
  - ORN-HERBICIDE
  - GROUND - NO FEE

OREGON DEPARTMENT OF AGRICULTURE / LICENSING INFORMATION Date printed: 05/05/2000

Mail #: 152387 Firm #: 152387 License Type: 69 License Number: 154230

Mail Name: HEBERT, KEVIN R
3214 NE 76TH

PORTLAND, OR 97213

Mail Phone: 503/968-5918
Mail Fax:

Mail County: MULTNOMAH

Contact: C/O C & R REFORESTATION

Mail Status: A

Firm Name: HEBERT, KEVIN R
3214 NE 76TH

PORTLAND, OR 97213

Firm Phone: 503/968-5918
Firm Fax:

Firm County: MULTNOMAH

Contact: C/O C & R REFORESTATION

Firm Status: A

License Type: Immediately Supervised Comc'l Pesticide Trainee (69)

License Status: A I Quantity: 1 0 Insp: Seasonal Months: 0 0
Required: 0 0

Cert Dates: ********** ********** Miscl: Cross Ref: 0
Initiated: 02/17/2000 Entry: 02/25/2000
Renewed: 02/23/2000 Expires: 12/31/2000 License Fee: 15.00 Lic Balance: 0.00
Penalty Fee: 0.00 Penalty Bal: 0.00

License Categories
RIGHT OF WAY
GROUND - NO FEE

OREGON DEPARTMENT OF AGRICULTURE / LICENSING INFORMATION Date printed: 05/05/2000

Mail #: 152388 Firm #: 152388 License Type: 69 License Number: 154231

Mail Name: PEARSON, KEN L
3214 NE 76TH

PORTLAND, OR 97213

Mail Phone: 503/968-5918
Mail Fax:

Mail County: MULTNOMAH

Contact: C/O C & R REFORESTATION

Mail Status: A

Firm Name: PEARSON, KEN L
3214 NE 76TH

PORTLAND, OR 97213

Firm Phone: 503/968-5918
Firm Fax:

Firm County: MULTNOMAH

Contact: C/O C & R REFORESTATION

Firm Status: A

License Type: Immediately Supervised Comc'l Pesticide Trainee (69)

License Status: A I Quantity: 1 0 Insp: Seasonal Months: 0 0
Required: 0 0

Cert Dates: ********** ********** Miscl: Cross Ref: 0
Initiated: 02/17/2000 Entry: 02/25/2000
Renewed: 02/23/2000 Expires: 12/31/2000 License Fee: 15.00 Lic Balance: 0.00
Penalty Fee: 0.00 Penalty Bal: 0.00

License Categories
RIGHT OF WAY
GROUND - NO FEE

RODEO®

EMERGED AQUATIC WEED AND BRUSH HERBICIDE

BY Monsanto

Complete Directions for Use in Aquatic and Other Noncrop Sites.

EPA Reg. No. 524-343

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

1998-1 21061W3-1/53

Read each of these sections of this label for essential product performance information.

USE THESE CONVENIENT SECTION MARKERS.

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED. SEE INDIVIDUAL CONTAINER LABI FOR REPACKAGING LIMITATIONS.

LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemic description on the label and is reasonably fit for the purposes set for in the Complete Directions for Use label booklet ("Directions") whe used in accordance with those Directions under the conditior described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WAF RANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILIT OR ANY OTHER EXPRESS OR IMPLIED WARRANTY IS MADE. This wa ranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any clair whether based in contract, negligence, strict liability, other tort o otherwise.

Buyer and all users are responsible for all loss or damage from use o handling which results from conditions beyond the control of th Company, including, but not limited to, incompatibility with product other than those set forth in the Directions, application to or contac with desirable vegetation, unusual weather, weather conditions whic are outside the range considered normal at the application site and fc the time period when the product is applied, as well as weather condi tions which are outside the application ranges set forth in th Directions, application in any manner not explicitly set forth in th Directions, moisture conditions outside the moisture range specified i the Directions, or the presence of products other than those set forth i the Directions in or on the soil or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT O THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY ANI ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OI HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CON TRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR TH QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THI COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUAN TITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCI QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLEI BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES

Buyer and all users are deemed to have accepted the terms of thi LIMIT OF WARRANTY AND LIABILITY which may not be varied by an verbal or written agreement.

Unemerged plants arising from unattached underground rhizome: root stocks of perennials or brush will not be affected by the spray will continue to grow. For this reason best control of most peren weeds or brush is obtained when treatment is made at late gro stages approaching maturity.

Always use the higher rate of this product per acre within the rec mended range when vegetation is heavy or dense.

Do not treat weeds or brush under poor growing conditions such drought stress, disease or insect damage, as reduced control result. Reduced results may also occur when treating weeds or br heavily covered with dust.

Reduced control may result when applications are made to any wee brush species that have been mowed, grazed or cut, and have not b allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application reduce effectiveness. Heavy rainfall or irrigation within 2 hours a application may wash the product off the foliage and a repeat treatn may be required.

When this product comes in contact with soil (on the soil surface o suspended soil or sediment in water) it is bound to soil particles. Ur recommended use situations, once this product is bound to soil pa cles, it is not available for plant uptake and will not harm off-site ve tation where roots grow into the treatment area or if the soi transported off-site. Under recommended use conditions, the str affinity of this product to soil particles prevents this product fr leaching out of the soil profile and entering ground water. The affi between this product and soil particles remains until this produc degraded, which is primarily a biological degradation process car out under both aerobic and anaerobic conditions by soil microflora.

This product does not provide residual weed control. For subseq residual weed control, follow a label-approved herbicide program. R and carefully observe the cautionary statements and all other inforr tion appearing on the labels of all herbicides used.

Buyer and all users are responsible for all loss or damage in connect with the use or handling of mixtures of this product or other materi that are not expressly recommended in this label. Mixing this prod with herbicides or other materials not recommended in this label n result in reduced performance.

ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING TH PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash or desirable vegetation since minute quantities of this product can cau severe damage or destruction to the crop, plants or other areas which treatment was not intended. The likelihood of plant or crop inju occurring from the use of this product is greatest when winds are gu or in excess of 5 miles per hour or when other conditions, includi lesser wind velocities, will allow spray drift to occur. When sprayi avoid combinations of pressure and nozzle type that will result in spl ter or fine particles (mist) which are likely to drift. AVOID APPLYING EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this lal may result in injury to persons, animals or crops, or other unintend consequences. When not in use, keep container closed to prevent spi and contamination.

MIXING AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CAL BRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUME. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOI SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCU IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM POND AND UNLINED DITCHES.

BOOM EQUIPMENT

For control of weed or brush species listed in this label using ventional boom equipment—Use the recommended rates o product and surfactant in 3 to 30 gallons of water per acre as a b cast spray, unless otherwise specified. See the "WEEDS CONTROL section of this label for specific rates. As density of veget increases, spray volume should be increased within the recomm range to ensure complete coverage. Carefully select correct noz avoid spraying a fine mist. For best results with ground applic equipment, use flat fan nozzles. Check for even distribution of droplets.

HAND-HELD and HIGH-VOLUME EQUIPMENT

Use Coarse Sprays Only

For control of weeds listed in this label using knapsack spr or high-volume spraying equipment utilizing handguns or suitable nozzle arrangements—Prepare a 3/4 to 2 percent so of this product in water, add a nonionic surfactant and apply to f of vegetation to be controlled. For specific rates of applicatio instructions for control of various annual and perennial weeds, s "WEEDS CONTROLLED" section in this label.

Applications should be made on a spray-to-wet basis. Spray co should be uniform and complete. Do not spray to point of runoff.

This product may be used as a 5 to 8 percent solution for low-v directed sprays for spot treatment of trees and brush. It is most eff in areas where there is a low density of undesirable trees or brus straight stream nozzle is used, start the application at the top of th geted vegetation and spray from top to bottom in a lateral z motion. Ensure that at least 50 percent of the leaves are contac the spray solution. For flat fan and cone nozzles and with hand-di mist blowers, mist the application over the foliage of the targeted tation. Small, open-branched trees need only be treated from one s the foliage is thick or there are multiple root sprouts, applications be made from several sides to ensure adequate spray coverage.

Prepare the desired volume of spray solution by mixing the amo this product in water, shown in the following table:

Spray Solution

Desired Volume	Amount of Rodeo®					
	3/4%	1%	1¼%	1½%	5%	8
1 Gal	1 oz.	1⅓ oz.	1⅓ oz.	2 oz.	6 oz.	1
25 Gal	1½ pt.	1 qt.	1¼ qt.	1½ qt.	5 qt.	2
100 Gal	3 qt.	1 gal.	1¼ gal.	1½ gal.	5 gal.	8

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recomm amount of this product be mixed with water in a larger contain sprayer with the mixed solution and add the correct amount of surfa

WEEDS CONTROLLED

ANNUAL WEEDS

Apply to actively growing annual grasses and broadleaf weeds.

Allow at least 3 days after application before disturbing treated tation. After this period the weeds may be mowed, tilled or bu See "DIRECTIONS FOR USE", "GENERAL INFORMATION" and "M AND APPLICATION INSTRUCTIONS" for labeled uses and specific cation instructions.

Broadcast Application—Use 1 1/2 pints of this product per acre or more quarts of a nonionic surfactant per 100 gallons of spray so if weeds are less than 6 inches tall. If weeds are greater than 6 i tall, use 2 1/2 pints of this product per acre plus 2 or more quarts approved nonionic surfactant per 100 gallons of spray solution.

Hand-Held, High-Volume Application—Use a 3/4 percent solut this product in water plus 2 or more quarts of a nonionic surfactar 100 gallons of spray solution and apply to foliage of vegetation controlled.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

HARMFUL IF INHALED.

Avoid breathing spray mist.

Remove contaminated clothing and wash clothing before reuse.

Wash thoroughly with soap and water after handling.

FIRST AID: IF INHALED, remove individual to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. Get medical attention.

In case of an emergency involving this product,
Call Collect, day or night, (314) 694-4000.

Environmental Hazards

Do not contaminate water when disposing of equipment washwaters. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation.

In case of: SPILL or LEAK, soak up and remove to a landfill.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic and plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

ACTIVE INGREDIENT:	
*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt	53.8%
INERT INGREDIENTS:	46.2%
	100.0%

*Contains 648 grams per litre or 5.4 pounds per U.S. gallon of the active ingredient, glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per litre or 4 pounds per U.S. gallon of the acid, glyphosate.

DIRECTIONS FOR USE

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

For more product information, call toll-free 1-800-332-3111.

Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instructions.

GENERAL INFORMATION

This product, a water-soluble liquid, mixes readily with water and nonionic surfactant to be applied as a foliar spray for the control or destruction of many herbaceous and woody plants.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days but on most perennial brush species may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow the activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Unless otherwise directed on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label.

Unemerged plants arising from unattached underground rhizomes c root stocks of perennials or brush will not be affected by the spray an will continue to grow. For this reason best control of most perenni weeds or brush is obtained when treatment is made at late growt stages approaching maturity.

Always use the higher rate of this product per acre within the recon mended range when vegetation is heavy or dense.

Do not treat weeds or brush under poor growing conditions such a drought stress, disease or insect damage, as reduced control ma result. Reduced results may also occur when treating weeds or brus heavily covered with dust.

Reduced control may result when applications are made to any weed brush species that have been mowed, grazed or cut, and have not bee allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application ma reduce effectiveness. Heavy rainfall or irrigation within 2 hours aft application may wash the product off the foliage and a repeat treatme may be required.

When this product comes in contact with soil (on the soil surface or a suspended soil or sediment in water) it is bound to soil particles. Und recommended use situations, once this product is bound to soil part cles, it is not available for plant uptake and will not harm off-site veg tation where roots grow into the treatment area or if the soil transported off-site. Under recommended use conditions, the stro affinity of this product to soil particles prevents this product fro leaching out of the soil profile and entering ground water. The affin between this product and soil particles remains until this product degraded, which is primarily a biological degradation process carri out under both aerobic and anaerobic conditions by soil microflora.

This product does not provide residual weed control. For subseque residual weed control, follow a label-approved herbicide program. Re and carefully observe the cautionary statements and all other inform tion appearing on the labels of all herbicides used.

Buyer and all users are responsible for all loss or damage in connecti with the use or handling of mixtures of this product or other materi that are not expressly recommended in this label. Mixing this prod with herbicides or other materials not recommended in this label m result in reduced performance.

ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING TH PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash o desirable vegetation since minute quantities of this product can cau severe damage or destruction to the crop, plants or other areas which treatment was not intended. The likelihood of plant or crop inj occurring from the use of this product is greatest when winds are gu or in excess of 5 miles per hour or when other conditions, includ lesser wind velocities, will allow spray drift to occur. When sprayi avoid combinations of pressure and nozzle type that will result in spl ter or fine particles (mist) which are likely to drift. AVOID APPLYING EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this la may result in injury to persons, animals or crops, or other unintenc consequences. When not in use, keep container closed to prevent sp and contamination.

MIXING AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CA BRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUM HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVO SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCC IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PON AND UNLINED DITCHES.

MIXING

This product mixes readily with water. Mix spray solutions of this product as follows: fill the mixing or spray tank with the required amount of water while adding the required amount of this product (see "DIRECTIONS FOR USE" and "WEEDS CONTROLLED" sections of this label). Near the end of the filling process, add the required surfactant and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the water source. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, place the filling hose below the surface of the spray solution, terminate by-pass and return lines at the bottom of the tank and if needed use an approved anti-foam or defoaming agent.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select correct nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

When using this product, mix 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution. Use a nonionic surfactant labeled for use with herbicides. The surfactant must contain 50 percent or more active ingredient.

Always read and follow the manufacturer's surfactant label recommendations for best results.

These surfactants should not be used in excess of 1 quart per acre when making broadcast applications.

Colorants or marking dyes approved for use with herbicides may be added to spray mixtures of this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's label recommendations.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water and dispose of rinsate according to labeled use or disposal instructions.

Carefully observe all cautionary statements and other information appearing in the surfactant label.

APPLICATION EQUIPMENT AND TECHNIQUES

AERIAL EQUIPMENT

See the supplemental label for use of this product by air in California.

Use the recommended rates of this product and surfactant in 3 to 20 gallons of water per acre as a broadcast spray, unless otherwise specified. See the "WEEDS CONTROLLED" section of this label for specific rates. Aerial applications of this product may only be made as specifically recommended in this label.

AVOID DRIFT — DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing in the additive label.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

BOOM EQUIPMENT

For control of weed or brush species listed in this label usir ventional boom equipment—Use the recommended rates product and surfactant in 3 to 30 gallons of water per acre as a cast spray, unless otherwise specified. See the "WEEDS CONTR section of this label for specific rates. As density of veg increases, spray volume should be increased within the recomn range to ensure complete coverage. Carefully select correct nc avoid spraying a fine mist. For best results with ground appl equipment, use flat fan nozzles. Check for even distribution of droplets.

HAND-HELD and HIGH-VOLUME EQUIPMENT

Use Coarse Sprays Only

For control of weeds listed in this label using knapsack sp or high-volume spraying equipment utilizing handguns or suitable nozzle arrangements—Prepare a 3/4 to 2 percent s of this product in water, add a nonionic surfactant and apply to of vegetation to be controlled. For specific rates of applicatio instructions for control of various annual and perennial weeds, s "WEEDS CONTROLLED" section in this label.

Applications should be made on a spray-to-wet basis. Spray co should be uniform and complete. Do not spray to point of runoff.

This product may be used as a 5 to 8 percent solution for low-v directed sprays for spot treatment of trees and brush. It is most eff in areas where there is a low density of undesirable trees or brus straight stream nozzle is used, start the application at the top of th geted vegetation and spray from top to bottom in a lateral zi, motion. Ensure that at least 50 percent of the leaves are contact the spray solution. For flat fan and cone nozzles and with hand-dir mist blowers, mist the application over the foliage of the targeted tation. Small, open-branched trees need only be treated from one s the foliage is thick or there are multiple root sprouts, applications be made from several sides to ensure adequate spray coverage.

Prepare the desired volume of spray solution by mixing the amou this product in water, shown in the following table:

Spray Solution

Desired Volume	Amount of Rodeo®					
	¾%	1%	1¼%	1½%	5%	8%
1 Gal	1 oz.	1⅓ oz.	1⅔ oz.	2 oz.	6 oz.	10½
25 Gal	1½ pt.	1 qt.	1¼ qt.	1½ qt.	5 qt.	2 ga
100 Gal	3 qt.	1 gal.	1¼ gal.	1½ gal.	5 gal.	8 ga

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommen amount of this product be mixed with water in a larger container. sprayer with the mixed solution and add the correct amount of surfact

WEEDS CONTROLLED

ANNUAL WEEDS

Apply to actively growing annual grasses and broadleaf weeds.

Allow at least 3 days after application before disturbing treated ve tation. After this period the weeds may be mowed, tilled or burn See "DIRECTIONS FOR USE", "GENERAL INFORMATION" and "MIXI AND APPLICATION INSTRUCTIONS" for labeled uses and specific ap cation instructions.

Broadcast Application—Use 1 1/2 pints of this product per acre plus or more quarts of a nonionic surfactant per 100 gallons of spray soluti if weeds are less than 6 inches tall. If weeds are greater than 6 inch tall, use 2 1/2 pints of this product per acre plus 2 or more quarts of approved nonionic surfactant per 100 gallons of spray solution.

Hand-Held, High-Volume Application—Use a 3/4 percent solution this product in water plus 2 or more quarts of a nonionic surfactant p 100 gallons of spray solution and apply to foliage of vegetation to b controlled.

When applied as directed under the conditions described in this label, this product plus nonionic surfactant WILL CONTROL the following ANNUAL WEEDS:

Balsamapple**
Momordica charantia

Barley
Hordeum vulgare

Barnyardgrass
Echinochloa crus-galli

Bassia, fivehook
Bassia hyssopifolia

Bluegrass, annual
Poa annua

Bluegrass, bulbous
Poa bulbosa

Brome
Bromus spp.

Buttercup
Ranunculus spp.

Cheat
Bromus secalinus

Chickweed, mouseear
Cerastium vulgatum

Cocklebur
Xanthium strumarium

Corn, volunteer
Zea mays

Crabgrass
Digitaria spp.

Dwarfdandelion
Krigia cespitosa

Mustard, tansy
Descurainia pinnata

Mustard, tumble
Sisymbrium altissimum

Mustard, wild
Sinapis arvensis

Oats, wild
Avena fatua

Panicum
Panicum spp.

Pennycress, field
Thlaspi arvense

Pigweed, redroot
Amaranthus retroflexus

Pigweed, smooth
Amaranthus hybridus

Ragweed, common
Ambrosia artemisiifolia

Ragweed, giant
Ambrosia trifida

Rocket, London
Sisymbrium irio

Rye
Secale cereale

Ryegrass, Italian*
Lolium multiflorum

Sandbur, field
Cenchrus spp.

Falseflax, smallseed
Camelina microcarpa

Fiddleneck
Amsinckia spp.

Flaxleaf fleabane
Conyza bonariensis

Fleabane
Erigeron spp.

Foxtail
Setaria spp.

Foxtail, Carolina
Alopecurus carolinianus

Groundsel, common
Senecio vulgaris

Horseweed/Marestail
Conyza canadensis

Kochia
Kochia scoparia

Lambsquarters, common
Chenopodium album

Lettuce, prickly
Lactuca serriola

Morningglory
Ipomoea spp.

Mustard, blue
Chorispora tenella

Shattercane
Sorghum bicolor

Shepherd's-purse
Capsella bursa-pastoris

Signalgrass, broadleaf
Brachiaria platyphylla

Smartweed, Pennsylvania
Polygonum pensylvanicum

Sowthistle, annual
Sonchus oleraceus

Spanishneedles*
Bidens bipinnata

Stinkgrass
Eragrostis cilianensis

Sunflower
Helianthus annuus

Thistle, Russian
Salsola kali

Spurry, umbrella
Holosteum umbellatum

Velvetleaf
Abutilon theophrasti

Wheat
Triticum aestivum

Witchgrass
Panicum capillare

*Apply 3 pints of this product per acre.

**Apply with hand-held equipment only.

Annual weeds will generally continue to germinate from seed throughout the growing season. Repeat treatments will be necessary to control later germinating weeds.

PERENNIAL WEEDS

Apply this product as follows to control or destroy most vigorc growing perennial weeds. Unless otherwise directed, allow at lez days after application before disturbing vegetation.

Add 2 or more quarts of a nonionic surfactant per 100 gallons of s solution to the rates of this product given in this list. See the "GEN INFORMATION", "DIRECTIONS FOR USE" and "MIXING AND APPL TION" sections in this label for specific uses and application instruct

NOTE: If weeds have been mowed or tilled, do not treat until regr has reached the recommended stages. Fall treatments must be ap before a killing frost.

Repeat treatments may be necessary to control weeds regener. from underground parts or seed.

When applied as recommended under the conditions described, product plus surfactant WILL CONTROL the following PEREN WEEDS:

Alfalfa
Medicago sativa

Alligatorweed*
Alternanthera philoxeroides

Anise/Fennel
Foeniculum vulgare

Artichoke, Jerusalem
Helianthus tuberosus

Bahiagrass
Paspalum notatum

Bermudagrass
Cynodon dactylon

Bindweed, field
Convolvulus arvensis

Fescue
Festuca spp.

Fescue, tall
Festuca arundinacea

Guineagrass
Panicum maximum

Hemlock, poison
Conium maculatum

Horsenettle
Solanum carolinense

Horseradish
Armoracia rusticana

Ice Plant
Mesembryanthemum crystallinum

Bluegrass, Kentucky
Poa pratensis

Blueweed, Texas
Helianthus ciliaris

Brackenfern
Pteridium spp.

Bromegrass, smooth
Bromus inermis

Canarygrass, reed
Phalaris arundinacea

Cattail
Typha spp.

Clover, red
Trifolium pratense

Clover, white
Trifolium repens

Cogongrass
Imperata clylindrica

Cordgrass
Spartina spp.

Cutgrass, giant*
Zizaniopsis miliacea

Dallisgrass
Paspalum dilatatum

Dandelion
Taraxacum officinale

Dock, curly
Rumex crispus

Dogbane, hemp
Apocynum cannabinum

Johnsongrass
Sorghum halepense

Kikuyugrass
Pennisetum clandestinum

Knapweed
Centaurea repens

Lantana
Lantana camara

Lespedeza: common, serice
Lespedeza striata
Lespedeza cuneata

Loosestrife, purple
Lythrum salicaria

Lotus, American
Nelumbo lutea

Maidencane
Panicum hematomon

Milkweed
Asclepias spp.

Muhly, wirestem
Muhlenbergia frondosa

Mullein, common
Verbascum thapsus

Napiergrass
Pennisetum purpureum

Nightshade, silverleaf
Solanum elaeagnifolium

Nutsedge: purple, yellow
Cyperus rotundus
Cyperus esculentus

Orchardgrass
Dactylis glomerata

Pampasgrass
Cortaderia jubata

Paragrass
Brachiaria mutica

Phragmites**
Phragmites spp.

Quackgrass
Agropyron repens

Reed, giant
Arundo donax

Ryegrass, perennial
Lolium perenne

Smartweed, swamp
Polygonum coccineum

Spatterdock
Nuphar luteum

Starthistle, yellow
Centaurea solstitialis

Sweet potato, wild*
Ipomoea pandurata

Thistle, artichoke
Cynara cardunculus

Thistle, Canada
Cirsium arvense

Timothy
Phleum pratense

Torpedograss*
Panicum repens

Tules, common
Scirpus acutus

Vaseygrass
Paspalum urvillei

Velvetgrass
Holcus spp.

Waterhyacinth
Eichornia crassipes

Waterlettuce
Pistia stratiotes

Waterprimrose
Ludwigia spp.

Wheatgrass, western
Agropyron smithii

*Partial control.

**Partial control in southeastern states. See specific recommendations below.

Alligatorweed—Apply 6 pints of this product per acre as a broadcast spray or as a 1 1/4 percent solution with hand-held equipment to provide partial control of alligatorweed. Apply when most of the target plants are in bloom. Repeat applications will be required to maintain such control.

Bermudagrass—Apply 7 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and when seedheads appear.

Bindweed, field / Silverleaf Nightshade / Texas Blueweed—Apply 6 to 7 1/2 pints of this product per acre as a broadcast spray west of the Mississippi River and 4 1/2 to 6 pints of this product per acre east of the Mississippi River. With hand-held equipment, use a 1 1/2 percent solution. Apply when target plants are actively growing and are at or beyond full bloom. For silverleaf nightshade, best results can be obtained when application is made after berries are formed. Do not treat when weeds are under drought stress. New leaf development indicates active growth. For best results apply in late summer or fall.

Brackenfern—Apply 4 1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 to 1 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

Cattail—Apply 4 1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when target plants are actively growing and are at or beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the summer or fall months.

Cogongrass—Apply 4 1/2 to 7 1/2 pints of this product per acre as a broadcast spray. Apply when cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

Cordgrass—Apply 4 1/2 to 7 1/2 pints of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment. Schedule applications in order to allow 6 hours before treated plants are covered by tidewater. The presence of debris and silt on the cordgrass plants will reduce performance. It may be necessary to wash targeted plants prior to application to improve uptake of this product into the plant.

Cutgrass, giant—Apply 6 pints of this product per acre as a broadca spray or as a 1 percent solution with hand-held equipment to provi partial control of giant cutgrass. Repeat applications will be required maintain such control, especially where vegetation is partially su merged in water. Allow for substantial regrowth to the 7 to 10-leaf sta prior to retreatment.

Dogbane, hemp / Knapweed / Horseradish—Apply 6 pints of th product per acre as a broadcast spray or as a 1 1/2 percent solutic with hand-held equipment. Apply when target plants are actively grov ing and most have reached the late bud-to-flower stage of growth. F best results, apply in late summer or fall.

Fescue, tall—Apply 4 1/2 pints of this product per acre as a broac cast spray or as a 1 percent solution with hand-held equipment. App when target plants are actively growing and most have reached tl boot-to-head stage of growth. When applied prior to the boot stage, les desirable control may be obtained.

Guineagrass—Apply 4 1/2 pints of this product per acre as a broad cast spray or as a 3/4 percent solution with hand-held equipmen Apply when target plants are actively growing and when most hav reached at least the 7-leaf stage of growth.

Johnsongrass / Bluegrass, Kentucky / Bromegrass, smooth Canarygrass, reed / Orchardgrass / Ryegrass, perennial / Timothy Wheatgrass, western — Apply 3 to 4 1/2 pints of this product pe acre as a broadcast spray or as a 3/4 percent solution with hand-hel equipment. Apply when target plants are actively growing and mos have reached the boot-to-head stage of growth. When applied prior t the boot stage, less desirable control may be obtained. In the fall, appl before plants have turned brown.

Lantana—Apply this product as a 3/4 to 1 percent solution with hand held equipment. Apply to actively growing lantana at or beyond th bloom stage of growth. Use the higher application rate for plants tha have reached the woody stage of growth.

Loosestrife, purple—Apply 4 pints of this product per acre as a broadcast spray or as a 1 to 1 1/2 percent solution using hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost.

Lotus, American—Apply 4 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatment may be necessary to control regrowth from underground parts and seeds.

Maidencane / Paragrass—Apply 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Repeat treatments will be required, especially to vegetation partially submerged in water. Under these conditions, allow for regrowth to the 7 to 10-leaf stage prior to retreatment.

Milkweed, common—Apply 4 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.

Nutsedge: purple, yellow—Apply 4 1/2 pints of this product per acre as a broadcast spray, or as a 3/4 percent solution with hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Apply when target plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.

Pampasgrass—Apply a 1 1/2 percent solution of this product with hand-held equipment when plants are actively growing.

Phragmites—For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 7 1/2 pints

per acre as a broadcast spray or apply a 1 1/2 percent solution with hand-held equipment. In other areas of the U.S., apply 4 to 6 pints per acre as a broadcast spray or apply a 3/4 percent solution with hand-held equipment for partial control. For best results, treat during late summer or fall months when plants are actively growing and in full bloom. Due to the dense nature of the vegetation, which may prevent good spray coverage and uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

Quackgrass / Kikuyugrass / Muhly, wirestem—Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment when most quackgrass or wirestem muhly is at least 8 inches in height (3 to 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

Reed, giant / ice plant—For control of giant reed and ice plant, apply a 1 1/2 percent solution of this product with hand-held equipment when plants are actively growing. For giant reed, best results are obtained when applications are made in late summer to fall.

Spatterdock—Apply 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when most plants are in full bloom. For best results, apply during the summer or fall months.

Sweet potato, wild—Apply this product as a 1 1/2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the recommended stage of growth before retreatment.

Thistle: Canada, artichoke—Apply 3 to 4 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray-to-wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth.

Torpedograss—Apply 6 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be required to maintain such control.

Tules, common—Apply this product as a 1 1/2 percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. After application, visual symptoms will be slow to appear and may not occur for 3 or more weeks.

Waterhyacinth—Apply 5 to 6 pints of this product per acre as a broadcast spray or apply a 3/4 to 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are desired.

Waterlettuce—For control, apply a 3/4 to 1 percent solution of this product with hand-held equipment to actively growing plants. Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require retreatment.

Waterprimrose—Apply this product as a 3/4 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but before fall color changes occur. Thorough coverage is necessary for best control.

Other perennials listed on this label—Apply 4 1/2 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached early head or early bud stage of growth.

WOODY BRUSH AND TREES

When applied as recommended under the conditions described, product plus surfactant CONTROLS or PARTIALLY CONTROLS the following woody brush plants and trees:

Alder
Alnus spp.

Ash*
Fraxinus spp.

Aspen, quaking
Populus tremuloides

Bearclover, Bearmat
Chamaebatia foliolosa

Birch
Betula spp.

Blackberry
Rubus spp.

Broom:
French
Cytisus monspessulanus
Scotch
Cytisus scoparius

Buckwheat, California*
Eriogonum fasciculatum

Cascara*
Rhamnus purshiana

Catsclaw*
Acacia greggi

Ceanothus
Ceanothus spp.

Chamise
Adenostoma fasciculatum

Cherry:
Bitter
Prunus emarginata
Black
Prunus serotina
Pin
Prunus pensylvanica

Coyote brush
Baccharis consanguinea

Creeper, Virginia*
Parthenocissus quinquefolia

Dewberry
Rubus trivialis

Dogwood
Cornus spp.

Elderberry
Sambucus spp.

Elm*
Ulmus spp.

Eucalyptus, bluegum
Eucalyptus globulus

Hasardia*
Haplopappus squamosus

Hawthorn
Crataegus spp.

Hazel
Corylus spp.

Hickory
Carya spp.

Holly, Florida; Brazilian Peppertree
Schinus terebinthifolius

Honeysuckle
Lonicera spp.

Hornbeam, American
Carpinus caroliniana

Kudzu
Pueraria lobata

Locust, black*
Robinia pseudoacacia

Manzanita
Arctostaphylos spp.

Maple:
Red**
Acer rubrum
Sugar
Acer saccharum
Vine*
Acer circinatum

Monkey Flower*
Mimulus guttatus

Oak:
Black*
Quercus velutina
Northern pine
Quercus palustris
Post
Quercus stellata
Red
Quercus rubra
Southern red
Quercus falcata
White*
Quercus alba

Persimmon*
Diospyros spp.

Poison Ivy
Rhus radicans

Poison Oak
Rhus toxicodendron

Poplar, yellow*
Liriodendron tulipifera

Prunus
Prunus spp.

Raspberry
Rubus spp.

Redbud, eastern
Cercis canadensis

Rose, multiflora
Rosa multiflora

Russian-olive
Elaeagnus angustifolia

Sage: black, white
Salvia spp.

Sagebrush, California
Artemisia californica

Salmonberry
Rubus spectabilis

Salt cedar*
Tamarix spp.

Saltbush, Sea myrtle
Baccharis halimifolia

Sassafras
Sassafras aibidum

Sourwood*
Oxydendrum arboreum

Sumac:
Poison*
Rhus vernix
Smooth*
Rhus glabra
Winged*
Rhus copallina

Sweet gum
Liquidambar styraciflua

Swordfern*
Polystichum munitum

Tallowtree, Chinese
Sapium sebiferum

Thimbleberry
Rubus parviflorus

Tobacco, tree*
Nicotiana glauca

Trumpetcreeper
Campsis radicans

Waxmyrtle, southern*
Myrica cerifera

Willow
Salix spp.

*Partial control

**See below for control or partial control instruction.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stage of growth.

Apply the recommended rate of this product plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution when plants are actively growing and, unless otherwise directed, after full-leaf expansion. Use the higher rate for larger plants and/or dense areas of growth.

On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring or early summer when brush species are at high moisture content and are flowering. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See the "DIRECTIONS FOR USE" and "MIXING AND APPLICATION INSTRUCTIONS" sections in this label for labeled use and specific application instructions.

Applied as a 5 to 8 percent solution as a directed application as described in the "HAND-HELD AND HIGH-VOLUME EQUIPMENT" section, this product will control or partially control all species listed in this section of this label. Use the higher rate of application for dense stands and larger woody brush and trees.

Apply the product as follows to control or partially control the following woody brush and trees.

Alder / Blackberry / Dewberry / Honeysuckle / Oak, Post / Raspberry—For control, apply 4 1/2 to 6 pints per acre as a broadcast spray or as a 3/4 to 1 1/4 percent solution with hand-held equipment.

Aspen, Quaking / Hawthorn / Trumpetcreeper—For control, apply 3 to 4 1/4 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/4 percent solution with hand-held equipment.

Birch / Elderberry / Hazel / Salmonberry / Thimbleberry—For control, apply 3 pints per acre of this product as a broadcast spray or as a 3/4 percent solution with hand-held equipment.

[illegible]: French, Scotch—For control, apply a 1 1/4 to 1 1/2 percent solution with hand-held equipment.

Buckwheat, California / Hasardia / Monkey Flower / Tobacco, Tree—For partial control of these species, apply a 3/4 to 1 1/2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Catsclaw—For partial control, apply a 1 1/4 to 1 1/2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Cherry: Bitter, Black, Pin / Oak, Southern Red / Sweet Gum / Prunus—For control, apply 3 to 7 1/2 pints of this product per acre as a broadcast spray or as a 1 to 1 1/2 percent solution with hand-held equipment.

Coyote brush—For control, apply a 1 1/4 to 1 1/2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Dogwood / Hickory / Salt cedar—For partial control, apply a 1 to 2 percent solution of this product with hand-held equipment or 6 to 7 1/2 pints per acre as a broadcast spray.

Eucalyptus, bluegum—For control of eucalyptus resprouts, apply a 1 1/2 percent solution of this product with hand-held equipment when resprouts are 6 to 12-feet tall. Ensure complete coverage. Apply when plants are actively growing. Avoid application to drought-stressed plants.

Holly [illegible]ida / Waxmyrtle, southern—For partial control, apply this product as a 1 1/2 percent solution with hand-held equipment.

Kudzu—For control, apply 6 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

Maple, Red—For control, apply as a 3/4 to 1 1/4 percent solution with hand-held equipment when leaves are fully developed. For partial control, apply 2 to 7 1/2 pints of this product per acre as a broadcast spray.

Maple, Sugar / Oak: Northern Pin, Red—For control, apply as a 3/4 to 1 1/4 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Poison Ivy / Poison Oak—For control, apply 6 to 7 1/2 pints of this product per acre as a broadcast spray or as a 1 1/2 percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

Rose, multiflora—For control, apply 3 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

Sage, black / Sagebrush, California / Chamise / Tallowtree, Chinese—For control of these species, apply a 3/4 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Saltbush, Sea myrtle—For control, apply this product as a 1 percent solution with hand-held equipment.

Willow—For control, apply 4 1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment.

Other woody brush and trees listed in this label—For partial control, apply 3 to 7 1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1 1/2 percent solution with hand-held equipment.

AQUATIC AND OTHER NONCROP SITES

When applied as directed and under the conditions described in the "WEEDS CONTROLLED" section in this label, this product will control or partially control the labeled weeds growing in the following industrial, recreational and public areas or other similar aquatic and terrestrial sites.

Aquatic Sites—This product may be applied to emerged weeds in all bodies of fresh and brackish water which may be flowing, nonflowing or transient. This includes lakes, rivers, streams, ponds, estuaries, rice levees, seeps, irrigation and drainage ditches, canals, reservoirs, wastewater treatment facilities, wildlife habitat restoration and management areas, and similar sites.

If aquatic sites are present in the noncrop area and are part of the intended treatment, read and observe the following directions:

This product does not control plants which are completely submerged or have a majority of their foliage under water.

There is no restriction on the use of treated water for irrigation, recreation or domestic purposes.

Consult local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.

NOTE: Do not apply this product directly to water within 1/2 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within 1/2 mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does not apply to intermittent inadvertant overspray of water in terrestrial use sites.

For treatments after drawdown of water or in dry ditches, allow 7 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after drawdown to ensure application to actively growing weeds.

Floating mats of vegetation may require retreatment. Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash or by rainfall within 6 hours of application. Do not re-treat within 24 hours following the initial treatment.

Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bankside applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist. The maximum application rate of 7 1/2 pints per acre must not be exceeded in any single broadcast application that is being made over water.

When emerged infestations require treatment of the total surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in fish kill.

Other Noncrop-Type Sites—This product may be used to control the listed weeds in terrestrial noncrop sites and/or in aquatic sites within these areas.

Airports
Golf Courses
Habitat Restoration & Management Areas
Highways & Roadsides
Industrial Plant Sites
Lumberyards
Parking Areas
Parks
Petroleum Tank Farms
Pipeline, Power, Telephone & Utility Rights-of-Way
Pumping Installations
Railroads
Schools
Storage Areas
Similar Sites

WILDLIFE HABITAT RESTORATION AND MANAGEMENT AREAS

This product is recommended for the restoration and/or maintenance of native habitat and in wildlife management areas.

Habitat Restoration and Maintenance—When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications may be made to allow recovery of native plant species, to open up water to attract waterfowl, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments may be made to selectively remove unwanted plants for habitat enhancement. For spot treatments, care should be exercised to keep spray off of desirable plants.

Wildlife Food Plots—This product may be used as a site preparation treatment prior to planting wildlife food plots. Apply as directed to control vegetation in the plot area. Any wildlife food species may be planted after applying this product, or native species may be allowed to reinfest the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling to allow for maximum effectiveness.

WIPER APPLICATIONS

For wick or wiper applications, mix 1 gallon of this product with 2 gallons of clean water to make a 33 percent solution. Addition of a nonionic surfactant at a rate of 10 percent by volume of total herbicide solution is recommended.

Wiper applications can be used to control or suppress annual and perennial weeds listed on this label. In heavy weed stands, a double application in opposite directions may improve results. See the "WEEDS CONTROLLED" section in this label for recommended timing, growth stage and other instructions for achieving optimum results.

CUT STUMP APPLICATION

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. **Apply a 50 to 100 percent solution of this product to freshly cut surface immediately after cutting.** Delay in applying this product may result in reduced performance. For best results, trees should be cut during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS most woody brush and tree species, some of which are listed below:

Alder
Alnus spp.

Coyote brush*
Baccharis consanguinea

Dogwood*
Cornus spp.

Eucalyptus
Eucalyptus spp.

Hickory*
Carya spp.

Madrone
Arbutus menziesii

Maple*
Acer spp.

Oak
Quercus spp.

Poplar*
Populus spp.

Reed, giant
Arundo donax

Salt cedar
Tamarix spp.

Sweet gum*
Liquidambar styraciflua

Sycamore*
Platanus occidentalis

Tan oak
Lithocarpus densiflorus

Willow
Salix spp.

*This product is not approved for this use on these species in the state of California.

INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into living tissue. Apply the equivalent of 1 ml of this product per 2 to 3 inches of trunk diameter. This is best achieved by applying 25 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying dilute material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as these, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, applications should be made during periods of active growth and full leaf expansion.

This treatment WILL CONTROL the following woody species:

Oak
Quercus spp.

Poplar
Populus spp.

Sweet gum
Liquidambar styraciflua

Sycamore
Platanus occidentalis

This treatment WILL SUPPRESS the following woody species:

Black gum*
Nyssa sylvatica

Dogwood
Cornus spp.

Hickory
Carya spp.

Maple, red
Acer rubrum

*This product is not approved for this use on this species in the state of California.

RELEASE OF BERMUDAGRASS OR BAHIAGRASS ON NONCROP SITES

RELEASE OF DORMANT BERMUDAGRASS AND BAHIAGRASS

When applied as directed, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Make applications to dormant bermudagrass or bahiagrass.

For best results on winter annuals, treat when weeds are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is in or beyond the 4 to 6-leaf stage.

WEEDS CONTROLLED

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below.

Apply the recommended rates of this product in 10 to 25 gallons of water per acre plus 2 quarts nonionic surfactant per 100 gallons of total spray volume.

WEEDS CONTROLLED OR SUPPRESSED*

NOTE: C = Control
S = Suppression

WEED SPECIES	RODEO® FLUID OZ/ACRE 6	9	12	18	24	48
Barley, little *Hordeum pusillum*	S	C	C	C	C	C
Bedstraw, catchweed *Galium aparine*	S	C	C	C	C	C
Bluegrass, annual *Poa annua*	S	C	C	C	C	C

WEEDS CONTROLLED OR SUPPRESSED* (continued)

NOTE: C = Control
S = Suppression

WEED SPECIES	RODEO® FLUID OZ/ACRE 6	9	12	18	24	48
Chervil *Chaerophyllum tainturieri*	S	C	C	C	C	C
Chickweed, common *Stellaria media*	S	C	C	C	C	C
Clover, crimson *Trifolium incarnatum*	•	S	S	C	C	C
Clover, large hop *Trifolium campestre*	•	S	S	C	C	C
Speedwell, corn *Veronica arvensis*	S	C	C	C	C	C
Fescue, tall *Festuca arundinacea*	•	•	•	•	S	S
Geranium, Carolina *Geranium carolinianum*	•	•	S	S	C	C
Henbit *Lamium amplexicaule*	•	S	C	C	C	C
Ryegrass, Italian *Lolium multiflorum*	•	•	S	C	C	C
Vetch, common *Vicia sativa*	•	•	S	C	C	C

*These rates apply only to sites where an established competitive turf is present.

RELEASE OF ACTIVELY GROWING BERMUDAGRASS

NOTE: USE ONLY ON SITES WHERE BAHIAGRASS OR BERMUDAGRASS ARE DESIRED FOR GROUND COVER AND SOME TEMPORARY INJURY OR YELLOWING OF THE GRASSES CAN BE TOLERATED.

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "WEEDS CONTROLLED" section in this label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed in this label, use 3/4 to 2 1/4 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre, plus 2 quarts of a nonionic surfactant per 100 gallons of total spray volume. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as size of plants increases or as they approach flower or seedhead formation.

Use the higher rate for partial control or longer-term suppression of the following perennial species. Use lower rates for shorter-term suppression of growth.

Bahiagrass
Dallisgrass
Fescue (tall)
Johnsongrass**
Trumpetcreeper*
Vaseygrass

*Suppression at the higher rate only.
**Johnsongrass is controlled at the higher rate.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may result.

BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the "NONCROP SITES" section in this label, this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full green-up of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 5 fluid ounces per acre of this product, plus 2 quarts of an approved nonionic surfactant per 100 gallons of total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued vegetative growth suppression, sequential applications must be made prior to seedhead emergence.

Apply no more than 2 sequential applications per year. As a first sequential application, apply 3 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 3 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

ANNUAL GRASS GROWTH SUPPRESSION

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 ounces of this product in 10 to 40 gallons of spray solution per acre. Mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

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