

352-754

8.10.2010

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Washington, D.C. 20460

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

J.H. (Jack) Cain  
E.I. du Pont de Nemours and Company  
1007 Market Street  
Wilmington, DE 19898

AUG 10 2010

Subject: Notification per PR Notice 98-10 (container handling PRN 2007-4)  
DuPont Imazapyr 75XP Herbicide  
EPA Reg. No. 352-754  
Application Dated July 6, 2010

Dear Mr. Cain:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the subject product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been date-stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-5697 or Mindy Ondish at 703-605-0723.

Sincerely,

*Mindy Ondish for*

Jim Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

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Please read instructions on reverse before completing form.

Form Approved, OMB No. 2070-0060. Approval expires 05-31-98



United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number DuPont / 352-754	2. EPA Product Manager James A. Tompkins	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) DuPont / DuPont Imazapyr 75XP Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) E. I. du Pont de Nemours & Co. 1007 Market Street Wilmington, DE 19898 Attention: J. Cain <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b> AUG 10 2010
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Notification of label change per PR Notice 2007-4. This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if the amended label is not consistent with the requirements of 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

### Section - III

1. Material This Product Will Be Packaged In:						2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic	foil lined bag, supersack, lined fiber drum
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container	<input type="checkbox"/> Glass	
						<input checked="" type="checkbox"/> Paper	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container 500cc; 3,4,12,25,30, & 300lb; 1,5 & 55gal		5. Location of Label Directions <input type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product			
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input checked="" type="checkbox"/> Other ECL (extended content label)				

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name J. H. (Jack) Cain	Title Product Registration Manager	Telephone No. (include Area Code) (302) 366-6417
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.		6. Date Application Received  <b>(Stamped)</b>
2. Signature 	3. Title Product Registration Manager	
4. Typed Name J. H. (Jack) Cain	5. Date July 6, 2010	



DuPont Crop Protection  
Stine-Haskell Research Center  
P.O. Box 30  
Newark, DE 19714-0030

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**REGISTRATION ACTION: EPA PRN 2007-4 NOTIFICATION**  
**FEE CATEGORY: Not Applicable**                                  **REGISTRATION FEE: None**

July 6, 2010

Via Courier

Mr. James A. Tompkins (Team 25)  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

Dear Mr. Tompkins:

**Subject:            DuPont™ Imazapyr 75XP Herbicide**  
**EPA Registration Number 352-754**  
**Submission of Notification: Revision of Container Handling Statements**  
**As per Subpart H of 40 CFR §156 ("Container Labeling") and**  
**EPA Pesticide Registration Notice 2007-4**

E.I. DuPont de Nemours and Company (DuPont) herein submits a Notification of revision of the container handling statements in the Storage And Disposal text box on the label for the subject registration of DuPont™ Imazapyr 75XP Herbicide. This Notification complies with the regulatory requirements of 40 CFR §152.46 (*Notification and non-notification changes to registrations*) and is in accordance with the procedures in EPA Pesticide Registration Notices 98-10 and 2007-4. The requisite Notification certification in Section IV. A. of PRN 2007-4 is contained in Section – II of EPA Form 8570-1.

The following items are enclosed in support of this Notification submission:

**1. EPA Form 8570-1 (Application for Registration Amendment)**

One signed copy of EPA Form 8570-1 is enclosed. The notification and certification described above is stated in the explanation box of Section - II.

It is my understanding that this action does not require the payment of registration service fees under PRIA because Agency initiated label revisions are not subject to PRIA. Consequently, no PRIA II pesticide registration fee category is proposed and no service fees have been paid.

**2. Revised DuPont™ Imazapyr 75XP Herbicide Label**

Four copies of the revised label [label code: SL - 1226-1 062810 11-01-07] are enclosed. One copy of the label is highlighted to indicate all text revisions as compared to the last EPA stamped-accepted label have been made.

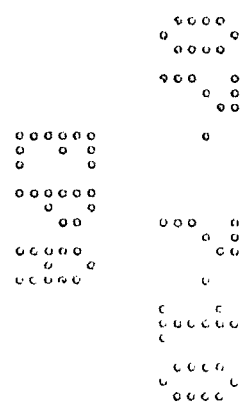
**3. Copy of Last EPA Approved Product Label for DuPont™ Imazapyr 75XP Herbicide**

One copy of the last EPA approved final printed product label [label code: SL - 1226 110507 11-01-07] is enclosed for your ready reference and ease of comparison to the label that has been revised for PRN 2007-4 compliance. This label was stamp-accepted by your office EPA on November 1, 2007.

I would appreciate your acknowledgement of the receipt and processing of this Notification of the revised label for DuPont™ Imazapyr 75XP Herbicide. Please don't hesitate to contact me immediately by phone or e-mail if you require any additional information.

Sincerely,

  
J. H. (Jack) Cain  
Senior Registration Manager  
E-Mail: [jack.cain@usa.dupont.com](mailto:jack.cain@usa.dupont.com)  
Phone: (302) 366-6417



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HIGHLIGHTED COPY

# DuPont<sup>TM</sup> Imazapyr 75XP herbicide

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*“..... A Growing Partnership With Nature”*





DuPont™

# Imazapyr 75XP

herbicide

### Dispersible Granules

Active Ingredient	By Weight
Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)	75.0%
Inert Ingredients	25.0%
TOTAL	100.0%

EPA Reg. No. 352-754

## KEEP OUT OF REACH OF CHILDREN

### CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

#### FIRST AID

**If on Skin or Clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**If in Eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**If Swallowed:** Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by a poison control center or doctor. DO NOT give anything to an unconscious person. Call a poison control center or doctor for further treatment advice.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

## NOTIFICATION

AUG 10 2010

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION!** Causes moderate eye irritation, Harmful if absorbed through the skin, swallowed, or inhaled. Avoid contact with skin, eyes, or clothing.

Avoid breathing spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

##### Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Shoes plus socks.

Chemical resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Control Statement:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### USER SAFETY RECOMMENDATIONS

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### ENVIRONMENTAL HAZARDS

For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning of equipment or disposing of equipment washwaters or rinsate. This herbicide is phytotoxic at extremely low concentrations. Non-target plants may be adversely affected from drift.

#### PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of IMAZAPYR 75XP should be mixed, stored, and applied only in stainless steel, fiberglass, plastic, and plastic-lined steel containers.

Do not mix, store, or apply IMAZAPYR 75XP or spray solutions of IMAZAPYR 75XP in unlined steel (except stainless steel) containers or spray tanks.

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## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. DuPont™ IMAZAPYR 75XP should be used only in accordance with recommendations on the label.

## BIOLOGICAL ACTIVITY

IMAZAPYR 75XP is quickly taken up by the leaves, stems and roots of plants with accumulations occurring in the growing points of the plant. Growth of treated plants stop soon after treatment. Within one to three weeks after application, the leaves begin to turn yellow (chlorosis) and then gradually become necrotic. Death of the plants may require several more weeks. IMAZAPYR 75XP is rain-fast at one hour after application.

## TANK MIXTURES

IMAZAPYR 75XP herbicide may be tank mixed with other herbicides and /or adjuvants registered for the uses specified in the product label. Refer to the label of the tank mix partner (s) for any additional instructions or use restrictions. Tank mixing with 2,4 -D or products which contain 2,4-D have resulted in reduced performance of IMAZAPYR 75XP.

An anti-foaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if needed or desired.

## ADJUVANTS

For best performance, include a spray adjuvant when making postemergence applications of IMAZAPYR 75XP.

**Nonionic Surfactants:** Use a non-ionic surfactant at a minimum rate of 0.25% v/v (1 quart surfactant per 100 gallons of spray solution). Surfactant products must contain at least 70% non-ionic surfactant with a hydrophilic/lipophilic balance (HLB) of 12 to 17.

**Methylated Seed Oils or Vegetable Oils:** Under temperature or moisture stress conditions, a methylated seed oil (MSO) or vegetable oil based adjuvant may provide increased leaf absorption of IMAZAPYR 75XP. For spray volumes of less than 30 gallons per acre use a rate of 1.5 to 2 pints per acre. For higher volume applications, spray volumes greater than 30 gallons per acre, include the MSO or vegetable oil adjuvant at 1% v/v (1 gallon per 100 gallons of spray solution).

**Silicone Based Surfactants:** Silicone based adjuvants reduce the surface tension of the spray droplet allowing better coverage of the leaf surface compared to some nonionic surfactants. In some cases, the silicone adjuvant may dry to quickly limiting uptake. Refer to the manufacturers recommendations for use rates.

**Invert Emulsions:** IMAZAPYR 75XP may be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray

drift and spary run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

## Ammonium Nitrogen Fertilizer

In addition to a non-ionic surfactant or seed oil concentrate, ammonium nitrogen fertilizer may be added to the IMAZAPYR 75XP spray solution. Use 32 to 48 ounces per acre of a high-quality urea ammonium nitrate (UAN), such as 28% N or 32% N, or a spray-grade ammonium sulfate (AMS).

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action. To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

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

## INTEGRATED PEST MANAGEMENT

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

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## AGRICULTURAL USES

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls

Shoes plus socks

Chemical resistant gloves made of any waterproof material

### GENERAL INFORMATION

DuPont™ IMAZAPYR 75XP herbicide is a water soluble granule to be mixed with water and generally applied as a postemergent spray for the control of many broadleaf weeds, annual and perennial grasses, brush, vines and brambles in conifer plantations (site preparation and release), wildlife management areas, rangeland and pasture sites. For perennial species on the label, a postemergence application should be used. For best performance, an adjuvant should be added to the spray solution (see **Adjuvants** section for specific recommendations).

IMAZAPYR 75XP may be applied by ground spray equipment (boom sprayers, backpack sprayers, tree injection, etc.) and by aerial spray equipment. Fixed wing aircraft and helicopters can be used to apply IMAZAPYR 75XP, however, do not make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil(TM) boom, Thru-Valve(TM) boom or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended rate.

In certain natural regeneration conifer sites, it may be used for selective herbaceous and woody weed control.

IMAZAPYR 75XP can also be used for cut stem and stump treatments, for the control of woody vegetation along forest roads and for establishing and maintaining wildlife openings, except in the state of California. It may also be used to control weeds along the banks of drainage (non-irrigation) ditches. Only the edge of drainage ditches can be treated for drainage ditches that contain water.

IMAZAPYR 75XP may be applied on conifer plantations, wildlife management areas, rangeland and pasture sites that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by management activities in these sites, except in the states of California and New York. It is permissible to treat drainage ditches, intermittent drainage sites, intermittently flooded low lying sites, seasonally dry flood plains, and transitional areas between upland and low land sites when no water is present, except in the states of California and New York. It is also permissible to treat marshes, swamps, and bogs after water has receded, as well as seasonally dry flood deltas, except in the states of California and New York.

Applying or draining or flushing equipment on or near sensitive desirable plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots may cause severe injury or death to these plants.

Good spray coverage of the target plant is desired. Excessive wetting which causes the spray to run off target plants should be avoided. IMAZAPYR 75XP may be applied by either ground or aerial spray equipment.

Do not treat irrigation ditches, or water used for crop irrigation or for domestic uses.

Note: Injury or loss of desirable trees or other plants may result if IMAZAPYR 75XP is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots.

### CONIFER PLANTATIONS

#### APPLICATION INFORMATION

##### SITE PREPARATION

IMAZAPYR 75XP controls the labeled weed species prior to planting the conifer species below. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

Conifer Species	Rate (ounces per acre)
Loblolly pine (Pinus taeda)	16 - 26.7
Loblolly X Pitch Hybrid	16 - 26.7
Longleaf pine (Pinus palustris)	16 - 26.7
Shortleaf pine (Pinus echinata)	16 - 26.7
Virginia pine (Pinus virginiana)	16 - 26.7
Slash pine (Pinus elliotii)	13.3 - 21.3
Douglas fir (Pseudotsuga menziesii)	8 - 16
Coastal redwood (Sequoia sempervirens)	8 - 16
Western hemlock (Tsuga heterophylla)	8 - 16
California red fir (Abies magnifica)	8 - 13.3
California white fir (Abies concolor)	8 - 13.3
Jack pine (Pinus banksiana)	8 - 10.7
Lodgepole pine (Pinus contorta)	8 - 10.7
Pitch pine (Pinus rigida)	8 - 10.7
Ponderosa pine (Pinus ponderosa)	8 - 10.7
Sugar Pine (Pinus lambertiana)	8 - 10.7
White pine (Pinus strobus)	8 - 10.7
Black spruce (Picea mariana)	8 - 10.7
Red spruce (Picea rubens)	8 - 10.7
White spruce (Picea glauca)	8 - 10.7



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DuPont™ IMAZAPYR 75XP applied postemergence at the recommended broadcast rates in the above table will provide control of many brush plants in conifer plantations. Allow 4 to 6 weeks after application for control of most herbaceous and grass weeds. The dead or dying plants may aid a site preparation burn, if needed. The residual activity of IMAZAPYR 75XP will aid in the control of herbaceous weeds.

For ground boom or backpack spray equipment, apply IMAZAPYR 75XP in a total spray volume of 5 to 100 gallons per acre. For helicopter applications, use a total spray volume of 5 to 30 gallons per acre. Include a spray adjuvant with all postemergence applications. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

In sites where tolerant wildling conifers, brush or weed species exist, tank mix IMAZAPYR 75XP with other registered herbicides. For quick brown out of foliage to aid burning, add 1 to 4 pints per acre of glyphosate (4 pounds active per gallon) or 1 to 3 pints per acre of triclopyr (4 pound active per gallon) to 0.7 to 2.7 pounds per acre of IMAZAPYR 75XP.

In site preparation areas with seedling pines, apply a tank mix of IMAZAPYR 75XP at 0.7 to 1.3 pounds per acre plus glyphosate (4 pound active per gallon) at 3 to 4 quarts per acre. When using IMAZAPYR 75XP at rates less than 1.0 pound per acre, expect only suppression of trees and hardwood brush species.

**NOTE:** To reduce the potential for injury, do not plant white or black spruce seedlings for 3 months following a banded or broadcast application of IMAZAPYR 75XP.

**HERBACEOUS WEED CONTROL**

Use IMAZAPYR 75XP for selective weeding in the following conifer species. Use the higher rate for hard to control weed or brush species or heavy weed or brush infestations.

Conifer Species	Rate (ounces per acre)
Loblolly pine	4 - 6.7
Loblolly X Pitch Hybrid	4 - 6.7
Virginia pine	4 - 6.7
Longleaf pine*	2.7 - 4
Slash pine*	2.7 - 4
Douglas fir*	2.7 - 4

\*The use of an adjuvant is not recommended.

For herbaceous weed control in established conifer seedlings, apply IMAZAPYR 75XP, at the above rates, as a directed spray, or as banded or broadcast spray over-the-top of the conifer seedlings. Apply by helicopter, ground boom or backpack sprayers for broadcast applications. For best results, make applications to newly emerged weeds.

When herbaceous weeds are taller than the conifer seedlings, an adjuvant (non-ionic surfactant) may be included at a maximum of 0.25% v/v for improved weed control. The addition of an adjuvant is not recommended for over-the-top applications in Longleaf pine, Slash pine or Douglas fir sites. If applications are made when conifers are

actively growing, minor conifer stunting (growth inhibition) may occur.

To help prevent the possibility of conifer injury, do not apply IMAZAPYR 75XP when conifers are under stress from drought, diseases, animal or winter injury, planting shock, or other stresses that may reduce conifer vigor. For directed applications around and under conifer seedlings, IMAZAPYR 75XP may be applied with hand-held or backpack sprayers for herbaceous weed control. Use a spray solution of IMAZAPYR 75XP at 0.3 to 0.8 ounces plus a nonionic surfactant at 0.2 ounce per gallon of water. To help prevent conifer injury, direct the spray to the weeds to reduce the amount of spray solution contacting the conifer foliage. Do not exceed the maximum labeled rate per acre for the various conifer species in the table.

IMAZAPYR 75XP may be tank mixed with DuPont™ OUST® XP to broaden the spectrum of weeds controlled. For loblolly pine, apply 2.7 to 4 ounces of IMAZAPYR 75XP plus 1 to 2 ounces OUST® XP per acre. The application of IMAZAPYR 75XP plus OUST® XP on other conifer species may cause growth suppression.

**CONIFER RELEASE**

A broadcast or directed application of IMAZAPYR 75XP may be used to suppress labeled herbaceous, tree or brush species. In all ages of conifer stands, a low volume, directed spray application may be made to the targeted weed species while avoiding contact with the conifer foliage. Make sure to not apply more than the rates listed below as conifer injury may occur. Where infestations of hardwood brush species are competing with the conifers, make a broadcast application of IMAZAPYR 75XP at the rate per conifer species listed below. Use the higher herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

Conifer Species	Rate (ounces per acre)
Loblolly pine <sup>1</sup>	8 - 13.3
Loblolly X Pitch Hybrid <sup>3</sup>	8 - 13.3
Virginia pine <sup>2</sup>	8 - 13.3
Longleaf pine	8 - 13.3
Pitch pine	8 - 13.3
Shortleaf pine	8 - 13.3
Slash pine	8 - 13.3
White pine <sup>1</sup>	5.3 - 10.7
California red fir	5.3 - 8
California white fir	5.3 - 8
Lodgepole pine <sup>2</sup>	5.3 - 8
Douglas fir <sup>2</sup>	5.3 - 8
Jack pine <sup>2</sup>	5.3 - 8
Black spruce <sup>2</sup>	5.3 - 8
Red spruce <sup>2</sup>	5.3 - 8
White spruce <sup>2</sup>	5.3 - 8

1 For release applications, White pine stands must be a minimum of 3 years old. To reduce injury potential, make applications after July 15th.

2 Applications should be made after formation of final conifer resting buds in the fall or height stunting (growth inhibition) may occur.

3 Mid rotation release: For broadcast applications underneath the pine canopy in established stands of Loblolly pine, loblolly X pitch hybrid and Virginia pine use 10.7 to 16 ounces per acre. For mid rotation release of other conifer species use the rates listed above.

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**Note:** In Longleaf pine and Slash pine stands, to control woody brush, make broadcast over-the-top release applications after August 15th. Only make applications to Longleaf and Slash pines that are 2 to 5 years old. Do not include an adjuvant and use the lower release rates on sandy soils.

When release applications are made during periods of active conifer growth, minor stunting (slowing of growth) may occur. In conifers, except loblolly pine, only make broadcast applications of DuPont™ IMAZAPYR 75XP after the second season of growth. To reduce the potential for minor stunting, make broadcast release applications late in the growing season.

Do not apply IMAZAPYR 75XP when conifers are under stress from diseases, drought, animal or winter injury or other environmental or mechanical stresses as injury may occur. During the first growing season after planting of loblolly pines or in one year old naturally regenerated loblolly pine sites, IMAZAPYR 75XP may be used for release treatments. For release of loblolly pines that are one year old apply IMAZAPYR 75XP at 8 to 13.3 ounces per acre. These applications should only be made after July 15th. Use rates below 1 pint per acre will provide only suppression of hardwood brush and some re-sprouting should be expected.

A non-ionic surfactant at 0.25% v/v may be included with this treatment.

For hard to control species or heavy infestations, use the higher labeled rates of IMAZAPYR 75XP.

#### SPOT TREATMENT – RELEASE

In all ages of conifers, a directed postemergence or cut stem application of IMAZAPYR 75XP may be applied to control unwanted hardwoods or other brush. In Ponderosa pine stands, cut stem applications, at 8 ounces or less per acre, may be used as spot treatments for hardwood control. Care should be taken to not make direct applications to desired plants as injury may occur. Injury may also occur to desired hardwoods or conifers where their roots extend into the treated area or if they share the same root system or their roots have become grafted to those of the treated trees.

#### WILDLIFE HABITAT MANAGEMENT

IMAZAPYR 75XP herbicide may be used to control exotic and other undesirable vegetation for purposes of wildlife habitat management and enhancement within forests as well as terrestrial non-crop sites. Applications can be made to control undesirable vegetation (see WEEDS CONTROLLED section) prior to planting desirable species and to release desirable plant species (see TOLERANT PLANT SPECIES section). Spot, directed foliar and cut stump and stem treatments can be made to selectively control unwanted plants for wildlife habitat management and enhancement.

#### MIXING AND APPLICATION INFORMATION

IMAZAPYR 75XP herbicide should be applied at the following use rates depending upon the vegetation to be controlled and the type of application being made. Use the

higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

Vegetation Type	Application Type	Use Rate
Hardwood trees and brush	Directed foliar or spot spray	2.2 to 4.4 ounces per 3 gallons of water
Stump or cut stem		4.4 ounces per gallon of water
Herbaceous weeds	Broadcast	2.2 to 6.6 ounces per acre

See specific use directions in appropriate section.

**Ground Operated Spray Equipment:** Thoroughly mix and apply the recommended amount of IMAZAPYR 75XP herbicide in a minimum of 5 gallons of water per acre. To mix, fill the spray tank with one-half to three-quarters of the desired volume with clean water. Add the required amount of IMAZAPYR 75XP to the spray tank while agitating. Add additional water to achieve the desired spray volume and agitate again. A suitable adjuvant (see Adjuvant section) may be added to the spray solution to enhance control of undesirable vegetation. A drift control agent and a foam reducing agent may be added at the recommended label rates, if needed. If desired, a spray pattern indicator may be added at the recommended label rate.

For best results, uniformly cover the foliage of the vegetation to be controlled with the spray solution.

**Side Trimming:** Do not side trim with IMAZAPYR 75XP unless severe injury or death of the treated tree can be tolerated. IMAZAPYR 75XP is readily translocated and can result in death of the entire tree.

#### DIRECTED FOLIAR OR SPOT SPRAY APPLICATIONS

When making directed or spot spray applications with ground spray equipment, or low-volume hand-operated spray equipment, thoroughly mix a solution of IMAZAPYR 75XP and include a nonionic surfactant at a minimum of 0.25% by volume.

To mix the spray solution, add the volume of IMAZAPYR 75XP herbicide and nonionic surfactant indicated in the table below to the desired amount of water. Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

SPRAY SOLUTION VOLUME	IMAZAPYR 75XP	SURFACTANT (fluid ounce)
3 gallons	2.2 to 4.4 ounces	1.0
5 gallons	4.4 to 9 ounces	1.6
10 gallons	9 to 18 ounces	3.2
20 gallons	18 to 35 ounces	6.4

**IMPORTANT:** Do not over apply causing run-off from the treated foliage. Avoid direct application to desired plant species as injury may occur. Do not apply on or near desirable non-conifer trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their

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roots. Do not exceed 26.4 ounces of DuPont™ IMAZAPYR 75XP herbicide per acre.

**Application Tips:** For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant.

**Proper Spray Pattern:** Moisten but do not drench target vegetation causing spray solution to run off.

**Low Volume with Backpacks:** For brush up to 4 feet tall, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

**For brush 4 to 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown when ever possible.

**For brush over 8 feet tall:** Lace the sides of the brush by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

**Low Volume with Hydraulic Handgun Application**

**Equipment:** Use same technique as described above for individual stem treatments.

**BROADCAST APPLICATIONS**

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the under story may result in severe injury or death of plants in the under story. Do not exceed 26.4 ounces of IMAZAPYR 75XP herbicide per acre.

**STUMP AND CUT STEM TREATMENTS**

IMAZAPYR 75XP may be used to control undesirable woody vegetation by applying a solution of the herbicide in water to the cambium area of freshly-cut stump surfaces or to cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Tree injection and cut stem treatments are most effective in late summer and early fall.

**Mixing:** IMAZAPYR 75XP herbicide may be mixed and applied as a dilute solution to the surface of the stump or to cuts on the stem of the target woody vegetation. To prepare a dilute solution, thoroughly mix 4.4 ounces of IMAZAPYR 75XP with one gallon of water.

**For cut stump treatments:** Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

**For tree injection treatments:** Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than one inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.

**For frill or girdle treatments:** Using a hatchet, machete, or similar device, make cuts through the bark at intervals around the tree with no more than two-inch intervals between cut edges. Spray or brush the solution into each cut until thoroughly wet.

**HERBACEOUS WEED CONTROL**

IMAZAPYR 75XP may be applied as a broadcast treatment using ground sprayers or as a directed treatment using backpack or hand-held sprayers for the control of herbaceous weeds. For broadcast treatments apply IMAZAPYR 75XP at rates of 2.2 to 6.6 ounces per acre and include a minimum of 0.25% by volume nonionic surfactant.

**TOLERANT PLANT SPECIES**

The following plant species are tolerant to IMAZAPYR 75XP herbicide. Many of these species are preferred food, browse and cover plants for wildlife. These species may be released from herbaceous weed and brush competition with an application of IMAZAPYR 75XP herbicide. IMAZAPYR 75XP herbicide should be used only in accordance with the recommendations on this label.

- |                     |                                |
|---------------------|--------------------------------|
| Beggarweed          | <i>Desmodium nudiflorum</i>    |
| Beggarweed          | <i>Desmodium rotundifolium</i> |
| Florida beggarweed  | <i>Desmodium tortuosum</i>     |
| Black locust        | <i>Robinia pseudo-acacia</i>   |
| Blackberry          | <i>Rubus argutus</i>           |
| Butterfly pea       | <i>Centrosema virginianum</i>  |
| Butterfly pea       | <i>Clitoris mariana</i>        |
| Dewberry            | <i>Rubus trivialis</i>         |
| Dollar weed         | <i>Rhynchosia reniformis</i>   |
| Erect milk pea      | <i>Galactia volubilis</i>      |
| Goats rue           | <i>Tephrosia virginiana</i>    |
| Ground nut          | <i>Apois americana</i>         |
| Hairy rhynchosia    | <i>Rhynchosia tomentosa</i>    |
| Hog peanut          | <i>Amphicarpa bracteata</i>    |
| Indigo bush         | <i>Amorpha fruticosa</i>       |
| Bicolor lespedeza   | <i>Lepedeza bicolor</i>        |
| Common lespedeza    | <i>Lepedeza striata</i>        |
| Hairy lespedeza     | <i>Lepedeza hirta</i>          |
| Japonica lespedeza  | <i>Lepedeza japonica</i>       |
| Prostrate lespedeza | <i>Lepedeza procumbens</i>     |
| Roundhead lespedeza | <i>Lepedeza capitata</i>       |
| Thunburg lespedeza  | <i>Lepedeza thunburgii</i>     |
| Wand lespedeza      | <i>Lepedeza intermedia</i>     |
| Milk pea            | <i>Strophostyles helvola</i>   |
| Narrowleaf vetch    | <i>Vicia dasycarpa</i>         |
| Partridge pea       | <i>Cassia fasciculata</i>      |
| Pencil flower       | <i>Stylosanthes biflora</i>    |
| Redbud              | <i>Cercis canadensis</i>       |
| Samson snakeroot    | <i>Psoralea psoraliodes</i>    |
| Sensitive bria      | <i>Schronkia michrophylla</i>  |
| Sesbania            | <i>Sesbania macrocarpa</i>     |
| Small partridge pea | <i>Casia nictitans</i>         |
| Spike tephrosia     | <i>Tephrosia specata</i>       |
| Training wild bean  | <i>Strophostyles umbellata</i> |
| Wild indigo         | <i>Indigofera caoliniana</i>   |
| Wild pea            | <i>Vigna suteola</i>           |

The following plant species commonly colonize a site after treatment with IMAZAPYR 75XP herbicide. Seed of these species may be present in the soil or may be dispersed within the area by wind and animals.

Beautyberry  
 Beggar ticks  
 Blue curls  
 Broomsedges  
 Carpet-weed  
 Common ragweed  
 Dove weed  
 Evening primrose  
 Fireweed  
 Florida pursland  
 Giant ragweed  
 Greenbrier  
 Ground cherry  
 Lambsquarter  
 Lovevine  
 Maypop  
 Morningglory  
 Muscadine grape  
 New Jersey tea  
 Panic grasses  
 Pennsylvania smartweed  
 Pigweed  
 Pison ivy  
 Pokeweed  
 Poor-joe  
 Sheep-sorrel  
 Smooth sumac  
 Trumpet vine  
 Violets  
 Virginia creep  
 Wild geranium  
 Winged sumac  
 Wolly croton  
 Yellow wood sorrel

*Callilcarpa americana*  
*Bidens spp.*  
*Trichostema dichotomum*  
*Andropogon spp.*  
*Mollugo verticillata*  
*Ambrosia artemisiifolia*  
*Croton glandulosus*  
*Oenothera biennis*  
*Epilobium angustifolium*  
*Richardia scarbra*  
*Ambrosia trifida*  
*Smilax bona-nox*  
*Physalis virginiana*  
*Chenopodium album*  
*Cuscuta gronovii*  
*Passiflora incarnata*  
*Ipomoea purpurea*  
*Vitis rotundifolia*  
*Ceanothus americanus*  
*Panicum spp.*  
*Polygonum pennsylvanicum*  
*Amaranthus hybridus*  
*Rhus radicans*  
*Phytolacca americana*  
*Diadia teres*  
*Rumex hastatulus*  
*Rhus glabra*  
*Campsis radicans*  
*Violet spp.*  
*Parthenocissus quinquefolia*  
*Geranium carolinianum*  
*Rhus copallina*  
*Croton capitatus*  
*Oxalis stricta*

**PASTURE AND RANGELAND  
 SPOT APPLICATIONS**

DuPont™ IMAZAPYR 75XP may be used as a spot treatment for weed control in rangelands and grass pastures. Apply with ground equipment at the rate of 0.7 to 16 ounces per acre. Do not treat more than one tenth of the area to be cut for hay or grazed. Do not apply more than 16 ounces per acre per year.

Do not cut forage grass until 7 days after an IMAZAPYR 75XP application. There are no restrictions for grazing.

For rangeland areas, IMAZAPYR 75XP should only be applied to control specific problem weeds. The successful weed management program depends on land management practices that promote the growth and development of desirable plant species.

IMAZAPYR 75XP herbicide controls non-native, invasive and noxious weeds in rangeland to aid in maintaining or establishing desirable plant species during normal conditions and following a fire. It is also used to control vegetation that could fuel wildfires or to help wildlife habitat improvement by suppressing/controlling undesirable vegetation or to release existing desirable rangeland plant communities from competing undesirable plants.

Caution should be used to protect threatened and endangered plants when applying IMAZAPYR 75XP in rangeland. To identify endangered plants in your area, work with the Fish and Wildlife Service or state conservation agencies to ensure protection of threatened or endangered plants. Federal agencies follow NEPA regulations but other organizations or people must operate under a Habitat Conservation Plan to ensure the protection of threatened and endangered plants.

**Rotational Crop Guidelines**

When used at the recommended rangeland and pasture rates, rotational crops may be planted 12 months after applications of IMAZAPYR 75XP. Prior to planting any crop a successful field bioassay must be completed -- field bioassay to be completed after the 12 month interval.

The field bioassay consists of a test strip of the intended rotational crop planted in the previously treated area in the grass pasture/rangeland sites and grown to maturity. The test strip should include low areas and knolls, and include variations in soil type and pH within the treated area. If no crop injury is evident in the test strip, the intended rotational crop may be planted the following year. IMAZAPYR 75XP used in recommended label directions can allow for normal growth of rotational crops but environmental and agronomic factors may vary resulting in injury to rotational crops at times.

**NON-AGRICULTURAL USES**

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Terrestrial non-crop weed control is not within the scope of the Worker Protection Standard. See the General Information section of this label for a description of non-crop sites.

Do not enter terrestrial/non-crop treated areas without protective clothing until sprays have dried.

**GENERAL INFORMATION**

IMAZAPYR 75XP herbicide is to be mixed with water and a surfactant, unless otherwise directed, and applied as a spray for the control of undesirable vegetation in terrestrial non-crop sites and unimproved turf.

IMAZAPYR 75XP herbicide is to be applied as a spray solution for general weed and brush control on private, public and military lands as follows: uncultivated non-agricultural areas (such as airports, highway, railroad and utility rights-of-way, sewage disposal areas, etc.); uncultivated agricultural areas - non-crop producing (such as farmyards, fuel storage areas, fence rows, non-irrigation ditch banks, barrier strips, etc.); industrial sites - outdoor (such as lumberyards, pipeline and tank farms, etc.) including grazed or hayed areas on these sites. This product may be applied to terrestrial non-crops sites and unimproved turf sites that contain areas of temporary surface water caused by collection of water, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittently flooded low lying sites, seasonally dry flood plains and transitional areas between upland and lowland sites when no water is present. It is also

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permissible to treat marshes, swamps and bogs after water has receded, as well as seasonally dry flood deltas. Do not apply DuPont™ IMAZAPYR 75XP to dry irrigation canals/ditches.

IMAZAPYR 75XP provides preemergence and postemergence control of the broadleaf weeds, perennial and annual grasses, vines and brush species found on the label. For perennial species on the label, a postemergence application should be used. For best performance, an adjuvant should be included to the spray solution (see **Adjuvants** section for specific recommendations).

Good spray coverage of the target plant is desired. Excessive wetting which causes the spray to run off target plants should be avoided. IMAZAPYR 75XP may be applied by either ground or aerial spray equipment.

Note: Injury or loss of desirable trees or other plants may result if IMAZAPYR 75XP is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their root.

## APPLICATION INFORMATION

### BRUSH

#### Aerial Applications

IMAZAPYR 75XP may be applied by either fixed wing aircraft or helicopter spray equipment. Fixed wing aircraft and helicopters can be used to apply IMAZAPYR 75XP, however, do not make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil(TM) boom, Thru-Valve(TM) boom or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended rate.

For brush sites, uniformly apply the recommended amount of IMAZAPYR 75XP in a minimum of 5 gallons of water per acre. Use adequate spray volume to provide an accurate and uniform spray droplet distribution over the treated area and to avoid spray drift. Include a nonionic surfactant or methylated seed oil or a silicone based surfactant in the spray solution (see **Adjuvant** section).

A foam reducing agent may be added at the recommended label rate, if needed. Side trimming is not recommended with IMAZAPYR 75XP unless death of the treated tree can be tolerated. All precautions should be taken to minimize or eliminate spray drift.

**Important:** Thoroughly clean application equipment, including landing gear, immediately after use of this

product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

## GROUND APPLICATIONS

### Low Volume Applications

Apply IMAZAPYR 75XP in a minimum of 5 gallons of spray solution per acre. Prepare the spray solution by thoroughly mixing in water a sufficient quantity of IMAZAPYR 75XP to apply 4 to 8 ounces per acre of IMAZAPYR 75XP plus a recommended adjuvant (see the Adjuvant section).

Do not apply more than 32 ounces per acre of IMAZAPYR 75XP. Good plant coverage is necessary for best results. The spray solution should cover the crown and at least 75% of the plant. Use adequate spray volume to help provide uniform distribution of spray droplets over the treated area and to avoid spray drift. Use the higher rates for hard to control brush species.

**Important:** Use 5.3 to 16 ounces IMAZAPYR 75XP per acre in combination with other recommended tank mixes when treating rights-of-way corridors that may have roots of desired trees extending into the treated area. Do not use more than 16 ounces per acre of IMAZAPYR 75XP in these areas as death to desired trees may occur. Add a spray pattern indicator, if desired, at the recommended label rates. Clean application equipment after using this product by thoroughly flushing with water.

**Side Trimming:** Side trimming with IMAZAPYR 75XP can cause severe injury or death to the treated tree. Do not make side trimming applications unless death of the tree is acceptable.

### SUGGESTED TANK-MIXES AND APPLICATION RATES\*

Target Vegetation	IMAZAPYR 75XP herbicide (ounces per acre)†	Tank Mix
Mixed hardwoods without elm, locust, or pine	5.3 - 8	Surfactant
Mixed hardwoods without elm, locust, or pine	4 - 5.3	**Glyphosate at 2 to 3% by volume plus surfactant
Mixed hardwoods without elm, locust, or pine	4 - 5.3	DuPont™ KRENITE® S at 2 to 5% by volume plus surfactant
Mixed hardwoods without elm, locust, or pine	4 - 5.3	DuPont™ ESCORT® XP at 2 ounces per acre or 2.23 grams/gallon plus surfactant

\* Tank mixtures with 2,4-D or products containing 2,4-D have resulted in reduced efficacy with IMAZAPYR 75XP.

\*\* 4 pounds glyphosate acid per gallon.

† Use the higher spray volumes and herbicide rates for heavy weed/brush infestations, hard to control species and dense hardwood canopies.

### Backpack Sprayers

For backpack manual sprayer applications, spray down on the crown and ensure coverage of 70% of the brush plant for plants up to 4 feet tall. When the plants are up to 8 feet tall,

treat at least two sides of the plant. Make swipes vertically from the crown to the base of the plant, covering the crown. If brush plants are over 8 feet tall, lace at least two sides of the plants with back and forth movements starting at crown and moving downward to base.

**Hydraulic Handgun Equipment**

When making broadcast applications, apply near the tops of the brush plants in a light drizzle pattern. The spray solution should reach the crown of the plants and trickle down into the canopy but not reach the under-story plant growth as severe injury or death of the under-story plants could occur.

**High Volume Applications**

When treating medium to high infestations of brush, apply DuPont™ IMAZAPYR 75XP at up to 100 gallons of spray solution per acre (GPA). Mix IMAZAPYR 75XP at 11.2 to 32 ounces per acre plus a surfactant. Add a foam reducing agent if needed. Use the higher rate for hard to control brush species but do not apply more than 32 ounces per acre. Apply evenly to cover brush foliage but don't over apply causing run-off.

Note: Spray applications exceeding 100 GPA may cause injury to the under-story or ground cover due to spray run-off.

**Invert Emulsions Applications**

IMAZAPYR 75XP can be applied as an invert emulsion (water in oil). This can be done in a batch mixing (single tank) or inline-mixing (injected) process. Follow the directions on the invert chemical guide.

**Cut Stubble Applications**

To control or suppress re-sprouting, an application of IMAZAPYR 75XP should be applied within 2 weeks after mechanical cutting or mowing of brush. Apply IMAZAPYR 75XP to the cut surface of the brush at a rate of 5.3 to 10.6 ounces per acre. To aid stem or exposed root absorption of the IMAZAPYR 75XP include a penetrating agent at the rate of 5% v/v.

Picloram may be tank mixed with IMAZAPYR 75XP to aid the control of brush and blackberry species. Make applications to the cut brush, the stumps and to the soil. Applications to the soil may allow nearby desirable tree roots to contact the treated area causing injury or death to desirable trees.

Waiting to treat re-sprouted brush foliage can be more efficacious to the brush and less injurious to desirable trees as less spray solution contacts the soil.

**DILUTE SOLUTION APPLICATIONS**

**Cut Stump treatments**

For dilute solutions, add 2.7 to 4 ounces of IMAZAPYR 75XP to one gallon of water. If temperatures are cold enough that the spray solution might freeze, add ethylene glycol (antifreeze) per manufacturers product recommendations.

To control recently cut target brush, apply IMAZAPYR 75XP solution to the newly cut stump or stem surfaces

(cambium area). Brush or spray the dilute solution onto the newly cut stem or stump surface - apply to the cambium area (the wood surface next to the bark of the stump). Make sure the entire cambium area is thoroughly covered with the solution. Do not make applications during the early spring period when sap flow is heaviest. Excess application may cause puddling or run-off. Desirable trees whose roots may share the same root system or may have become grafted to the treated tree/brush may be severely injured.

Note: IMAZAPYR 75XP may be applied as either a dilute or concentrated solution for this type of application. For cut stem or stump surfaces, a dilute solution may be used. For applications to cuts made to the stems, apply IMAZAPYR 75XP as a concentrated solution. For larger diameter trees, using the concentrated solution allows fewer cuts to the stems. When cut areas have become partially callused, adding an adjuvant or penetrating agent may aid absorption into the stem or stump.

**Tree Injection treatments:** Apply 1 milliliter of dilute solution through commercial injection equipment into each injection site around the tree. Allow no more than one inch intervals between cut edges. Make sure that the injector penetrates the tree bark at each site.

**Frill or Girdle treatments:** With no more than two inch intervals between cut edges, use a machete, hatchet, or similar equipment to make cuts through the bark around the tree. Brush or spray the dilute solution directly into each cut - thoroughly wet each cut with the solution.

**CONCENTRATED SOLUTION APPLICATIONS**

For concentrated solutions, add 1.3 pounds of IMAZAPYR 75XP to a maximum of 1 quart of water.

**Tree Injection treatments:** With commercial injection equipment, apply 1 milliliter of concentrated IMAZAPYR 75XP solution into each injection site around the tree. For each 3 inches of Diameter at Breast Height (DBH) of the target tree, make at least one injection cut. Using this method, a 6 inch DBH tree would get at least two injection cuts. For larger trees that require more than one injection site, make the injection cuts at equal distances around the tree.

**Frill or Girdle treatments:** With a machete, hatchet, or similar equipment, make cuts through the bark at equal distances around the tree. For each 3 inches of Diameter at Breast Height (DBH) of the target tree, make at least one injection cut. Using this method, a 6 inch DBH tree would get at least two injection cuts. For larger trees that require more than one injection site, make the injection cuts at equal distances around the tree.

**Note:** Injury may occur to desirable woody plants if the shoots extend from the same root system or their root systems are grafted to those of the treated tree.

**UNDER PAVED SURFACES APPLICATIONS**

In industrial sites or where the pavement perimeter has a suitable barrier that prevents roots of desirable plants from encroaching into the treated area, IMAZAPYR 75XP may be used to control weeds under pond liners, asphalt and

other paved areas. The area to be treated must have been prepared in accordance with good construction practices or do not apply DuPont™ IMAZAPYR 75XP All vegetative plant parts including roots, tubers, stolons or rhizomes should be completely removed prior to application. A grader blade may be used to "scalp" the site to aid the removal of these plant parts.

IMAZAPYR 75XP is not to be used under pavement in residential or recreational areas. Do not use IMAZAPYR 75XP under paved areas such as driveways, parking lots, bike or jogging paths, golf cart paths, tennis courts or when landscape planting could be anticipated. Where roots of desirable plants are present or may extend into the treated area, injury or death of these plants may result. Shrub or tree roots may extend well beyond the branch/limb extremities or drip line. IMAZAPYR 75XP should only be applied following the final grading of the site to be paved. After the IMAZAPYR 75XP application, the soil should not be disturbed or moved. On a per acre basis, add 2 pounds of IMAZAPYR 75XP to a minimum of 100 gallons of water (0.73 ounces per 1000 square feet) to help ensure a uniform and thorough coverage of the site surface and shoulder areas.

For proper activation of IMAZAPYR 75XP it should be incorporated by rainfall (minimum of 1 inch) or mechanical equipment. If no rainfall or irrigation occurs, use a rototiller or disc and incorporate IMAZAPYR 75XP 4 to 6 inches deep into the soil.

Do not allow soil from the treated site to move or wash into untreated areas.

**Important:** Paving should follow IMAZAPYR 75XP applications as soon as possible.

**UNIMPROVED BERMUDAGRASS AND BAHIAGRASS TURF APPLICATIONS**

IMAZAPYR 75XP may be used in non-crop industrial sites, such as, utility rights-of-way and roadsides, for general weed control where either bahiagrass or common bermudagrass or coastal bermudagrass is the established turf. Applications to bermudagrass will cause stunting and seed head inhibition.

Apply IMAZAPYR 75XP by ground equipment only. Use a minimum of 10 gallons of water per acre and a spray pressure of 20 to 50 pounds per square inch (psi).

**Important:** A temporary chlorosis (yellowing) may occur if applications are made after growth begins.

Do not include surfactants at a rate greater than 1 ounce per 25 gallons of spray solution.

Do not apply in the first growing season of either bahiagrass or bermudagrass.

Do not apply IMAZAPYR 75XP to grass under stress from disease, insects, drought, or other causes.

**RATES AND TIMINGS**

**BERMUDAGRASS** – In dormant bermudagrass, IMAZAPYR 75XP may be applied at 2 to 4 ounces per acre. When bermudagrass has attained the full green-up

stage of growth, IMAZAPYR 75XP may be applied at 2 to 2.7 ounces per acre. Treatments made prior to the full green-up stage will delay green-up.

For broader spectrum preemergence control of grasses and broadleaf weeds, LINEAGE™ may be tank mixed with pendimethalin. See the pendimethalin label for use rates and any other application information.

For Johnsongrass control in bermudagrass, apply a tank mixture of IMAZAPYR 75XP at 8 ounces per acre plus glyphosate at 12 ounces per acre (4 pound active per gallon) plus a surfactant. For additional control of broadleaf weeds and vines, triclopyr (3 pounds active per gallon) may be added to the above mixture at the rate of 1 to 2 pints per acre. Observe all precautions and restrictions on the tank mixture partner label(s).

**BAHIAGRASS** – For bahiagrass in the dormant to early greenup stage of growth, IMAZAPYR 75XP may be applied at the rate of 1.3 to 2.7 ounces per acre.

**Caution:** Do not apply IMAZAPYR 75XP to bahiagrass beyond the 25% green-up stage of growth. Include a surfactant in the spray solution.

**WEEDS CONTROLLED**

- Bedstraw (*Galium spp*)
- Bishopweed (*Ptilimnium capillaceum*)
- Buttercup (*Ranunculus parviflorus*)
- Carolina geranium (*Geranium carolinianum*)
- Fescue (*Festuca spp*)
- Foxtail (*Setaria spp*)
- Johnsongrass, seedling (*Sorghum halepense*)
- Little barley (*Hordeum pusillum*)
- Wild carrot (*Daucus carota*)
- White clover (*Trifolium repens*)
- Yellow woodsorrel (*Oxalis stricta*)

**GRASS GROWTH AND SEED-HEAD SUPPRESSION**

For areas of unimproved turf grass, IMAZAPYR 75XP may be used for the suppression of grass growth and seed-head development. Depending on the environmental conditions at time of treatment, applications to desirable turf grass may cause discoloration or injury. For best results, all applications should be made before stem (culm) elongation. IMAZAPYR 75XP applications may be made prior to or after mowing. For applications before mowing, the grass should have had at least 3 days of active growth.

Applications made after mowing should also allow time for the grass to recover. IMAZAPYR 75XP applications made too soon before or after mowing could result in increased grass injury.

Check turf grass conditions first before making IMAZAPYR 75XP applications. Do not apply to grass under stress from cold, insects, diseases, drought, damage, etc. or severe injury or death may occur.

**Bermudagrass:** Apply IMAZAPYR 75XP herbicide at 2 to 2.7 ounces per acre from early green-up to prior to seed head initiation. Do not add a surfactant for this application.

**Cool Season Unimproved Turf:** Apply at a rate of 0.7 ounces per acre plus 0.25% v/v non-ionic surfactant. For increased suppression, tank mix with glyphosate (1.2

pounds active per gallon) at 24 ounces per acre or mefluidide (2 pound active per gallon) at 8 ounces per acre.

**Note:** Tank mixtures may increase injury to desired turf. Consult each product label for recommended turf species and other use directions and precautions. Tank mixes with 2,4 -D or products containing 2,4-D may decrease the effectiveness of DuPont™ IMAZAPYR 75XP.

**TOTAL VEGETATION CONTROL BAREGROUND**

IMAZAPYR 75XP may be used in sites for bareground (total vegetation control) weed control. Preemergence or postemergence applications of IMAZAPYR 75XP provides control of many annual and perennial broadleaf and grass weeds.

It may be used alone at 8 to 32 ounces per acre or in tank mixes with other products registered for use on bareground sites. Consult the manufacturer's labels for specific rates, weeds controlled and use restrictions. Make applications using a spray volume of up to 100 gallons per acre and include an adjuvant.

Apply at any time of the year. Make a thorough and uniform application with calibrated spray equipment per label recommendations. Use the higher rates of IMAZAPYR 75XP for fall applications and in previously untreated areas or areas with high weed infestations.

For postemergence applications always include a spray adjuvant. For faster brown-out or burn down results, add glyphosate or similar products to the tank.

As above for postemergence applications, the addition of glyphosate or similar products may be added for faster brown-out or burndown of the escaped weeds. For added residual weed control or to broaden the weed control spectrum, tank mix with other residual products registered for use on bareground sites. The level and length of control will depend on the herbicide(s) rate applied, amount of rainfall, the soil texture and other environmental and applications conditions.

**WEEDS CONTROLLED**

IMAZAPYR 75XP provides postemergence control and some residual control of the annual weeds in the following tables. The degree of control is both rate and species dependent. Postemergence applications generally provide best control of established biennials and perennial weeds. All rates in the Weeds Controlled table are expressed in the amount of herbicide required for broadcast applications. Review the weed lists and foot notes for additional application information prior to treating.

**GRASSES**

**Apply 11.2 to 16 ounces per acre<sup>1</sup>**

COMMON NAME	GENUS SPECIES
Bluegrass, annual	<i>Poa annua</i>
Broadleaf signalgrass	<i>Brachiaria platyphylla</i>
Canada bluegrass	<i>Poa compressa</i>
Downy brome	<i>Bromus tectorum</i>
Fescue	<i>Festuca spp.</i>
Foxtail	<i>Setaria spp.</i>
Italian ryegrass	<i>Lolium multiflorum</i>
Johnsongrass <sup>1</sup>	<i>Sorghum halepense</i>
Kentucky bluegrass	<i>Poa pratensis</i>
Lovegrass <sup>1</sup>	<i>Eragrostis spp.</i>
Orchardgrass	<i>Dactylis glomerata</i>
Paragrass	<i>Brachiaria mutica</i>
Quackgrass	<i>Agropyron repens</i>
Sandbur	<i>Cenchrus spp.</i>
Sand dropseed	<i>Sporobolus cryptandrus</i>
Smooth brome	<i>Bromus inermis</i>
Vaseygrass	<i>Paspalum urvillei</i>
Wild oats	<i>Avena fatua</i>
Witchgrass	<i>Panicum capillare</i>

**Apply 16 to 21 ounces per acre<sup>1</sup>**

Barnyardgrass	<i>Echinochloa crus-gali</i>
Beardgrass	<i>Andropogon spp.</i>
Cheat	<i>Bromus secalinus</i>
Crabgrass	<i>Digitaria spp.</i>
Crowfootgrass	<i>Dactyloctenium aegyptium</i>
Pall panicum	<i>Panicum dichotomiflorum</i>
Giant reed	<i>Arundo donax</i>
Goosegrass	<i>Eleusine indica</i>
Itchgrass	<i>Rotthoellia exaltata</i>
Junglerice	<i>Echinochloa cololum</i>
Lovegrass	<i>Eragrostis spp.</i>
Maidencane	<i>Panicum hemitomon</i>
Panicum, browntop	<i>Panicum fasciculatum</i>
Panicum, Texas	<i>Panicum texanum</i>
Prairie threeawn	<i>Aristida oligantha</i>
Reed canarygrass	<i>Phalaris arundinacea</i>
Sandbur, field	<i>Cenchrus incertus</i>
Signalgass	<i>Brachiaria platyphylla</i>
Torpedograss	<i>Panicum repens</i>
Wild barley	<i>Hordeum spp.</i>
Wooly cupgrass	<i>Eriochloa villosa</i>

**Apply 21 to 32 ounces per acre<sup>1</sup>**

Bahiagrass	<i>Paspalum notatum</i>
Bermudagrass <sup>1</sup>	<i>Cynodon dactylon</i>
Big bluestem	<i>Andropogon gerardii</i>
Cattail	<i>Typha spp.</i>
Cogongrass	<i>Imperata cylindrica</i>
Dallisgrass	<i>Paspalum dilatatum</i>
Feathertop	<i>Pennisetum villosum</i>
Guineagrass	<i>Panicum maximum</i>
Phragmites	<i>Phragmites australis</i>
Prairie cordgrass	<i>Spartina pectinata</i>
Saltgrass <sup>2</sup>	<i>Distichlis stricta</i>
Sand dropseed	<i>Sporobolus cryptandrus</i>
Sprangletop	<i>Leptochloa spp.</i>
Timothy	<i>Phleum pratense</i>
Wirestem muhly	<i>Muhlenbergia frondosa</i>



**BROADLEAF WEEDS**

**Apply 11.2 to 16 ounces per acre<sup>1</sup>**

Alligatorweed	<i>Alternanthera philoxeroides</i>
Burdock	<i>Arctium spp.</i>
Camphorweed	<i>Heterotheca subaxillaris</i>
Carpetweed	<i>Mollugo verticillata</i>
Carolina geranium	<i>Geranium carolinianum</i>
Clover	<i>Trifolium spp.</i>
Common chickweed	<i>Stellaria media</i>
Common ragweed	<i>Ambrosia artemisiifolia</i>
Dandelion	<i>Taraxacum officinale</i>
Dogfennel	<i>Eupatorium capillifolium</i>
Filaree	<i>Erodium spp.</i>
Fleabane	<i>Erigeron spp.</i>
Hoary vervain	<i>Verbena stricta</i>
Horseweed	<i>Conyza canadensis</i>
Indian mustard	<i>Brassica juncea</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters	<i>Chenopodium album</i>
Lespedeza	<i>Lespedeza spp.</i>
Miners lettuce	<i>Montia perfoliata</i>
Mullein	<i>Verbascum spp.</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
Oxeye daisy	<i>Chrysanthemum leucanthemum</i>
Pepperweed	<i>Lepidium spp.</i>
Pigweed	<i>Amaranthus spp.</i>
Plantain	<i>Plantago spp.</i>
Puncturevine	<i>Tribulus terrestris</i>
Russian thistle	<i>Salsola kali</i>
Smartweed	<i>Polygonum spp.</i>
Sorrel	<i>Rumex spp.</i>
Sunflower	<i>Helianthus spp.</i>
Sweet clover	<i>Melilotus spp.</i>
Tansymustard	<i>Descurainia pinnata</i>
Western ragweed	<i>Ambrosia psilostachya</i>
Wild carrot	<i>Daucus carota</i>
Wild lettuce	<i>Lactuca spp.</i>
Wild parsnip	<i>Pastinaca sativa</i>
Wild turnip	<i>Brassica campestris</i>
Woollyleaf bursage	<i>Franseria tomentosa</i>
Yellow woodsorrel	<i>Oxalis stricta</i>

**Apply 16 to 21 ounces per acre<sup>1</sup>**

Broom snakeweed	<i>Gutierrezia sarothrae</i>
Bull thistle	<i>Cirsium vulgare</i>
Burclover	<i>Medicago spp.</i>
Chickweed, mouseear	<i>Cerastium vulgatum</i>
Clover, hop	<i>Trifolium procumbens</i>
Cocklebur	<i>Xanthium strumarium</i>
Cudweed	<i>Gnaphalium spp.</i>
Desert camelthorn	<i>Alhagi pseudalhagi</i>
Diffuse knapweed	<i>Centaurea diffusa</i>
Dock	<i>Rumex spp.</i>
Fiddleneck	<i>Amsinckia intermedia</i>
Goldenrod	<i>Solidago spp.</i>
Henbit	<i>Lamium aplexicaule</i>
Knotweed, prostrate	<i>Polygonum aviculare</i>
Pokeweed	<i>Phytolacca americana</i>
Purple loosestrife	<i>Lythum salicaria</i>
Purslane	<i>Portulaca spp.</i>
Pusley, Florida	<i>Richardia scabra</i>
Rocket, London	<i>Sisymbrium irio</i>
Rush skeletonweed	<i>Chondrilla juncea</i>
Saltbush	<i>Atriplex spp.</i>
Shepherd's-purse	<i>Capsela bursa-pastoris</i>
Spurge, annual	<i>Euphorbia spp.</i>
Stinging nettle	<i>Urtica dioica</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Yellow starthistle	<i>Centaurea solstitialis</i>

**Apply 21 to 32 ounces per acre<sup>1</sup>**

Arrowwood	<i>Pluchea sericea</i>
Canada thistle	<i>Cirsium arvense</i>
Giant ragweed	<i>Ambrosia trifida</i>
Grey rabbitbrush	<i>Chrysothamnus nauseosus</i>
Japanese bamboo/knotweed	<i>Polygonum cuspidatum</i>
Little mallow	<i>Malva parvilora</i>
Milkweed	<i>Asclepias spp.</i>
Primrose	<i>Oenothera kunthiana</i>
Russian knapweed	<i>Centaurea repens</i>
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>
Sowthistle	<i>Sonchus spp.</i>
Texas thistle	<i>Cirsium texanum</i>

**VINES AND BRAMBLES**

**Apply 5 ounces per acre<sup>1</sup>**

Field bindweed	<i>Convolvulus arvensis</i>
Hedge bindweed	<i>Calystegia sepium</i>

**Apply 11.2 to 16 ounces per acre<sup>1</sup>**

Wild buckwheat	<i>Polygonum convolvulus</i>
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**Apply 16 to 21 ounces per acre<sup>1</sup>**

Greenbriar	<i>Smilax spp.</i>
Honeysuckle	<i>Lonicera spp.</i>
Morningglory	<i>Ipomoea spp.</i>
Poison ivy	<i>Rhus radicans</i>
Redvine	<i>Brunnichia cirrhosa</i>
Wild rose <sup>1</sup>	
Including: Multiflora rose	
Macartney rose	<i>Rosa spp.</i>
Rosa multiflora	
Rosa bractreata	

**Apply 21 to 32 ounces per acre<sup>1</sup>**

Kudzu 4	<i>Pueraria lobata</i>
Trumpet creeper	<i>Campsis radicans</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Wild grape	<i>Vitis spp.</i>

## BRUSH SPECIES

Apply 21 to 32 ounces per acre<sup>1</sup>

Alder	<i>Alnus spp.</i>
American beech	<i>Fagus grandifolia</i>
Ash <sup>1</sup>	<i>Fraxinus spp.</i>
Aspen	<i>Populus spp.</i>
Autumn olive	<i>Elaeagnus umbellata</i>
Bald cypress	<i>Taxodium distichum</i>
Bigleaf maple	<i>Acer macrophyllum</i>
Birch <sup>1</sup>	<i>Betula spp.</i>
Blackgum <sup>2</sup>	<i>Nyssa sylvatica</i>
Boxelder	<i>Acer negundo</i>
Black oak	<i>Quercus kelloggii</i>
Ceanothis	<i>Ceanothis spp.</i>
Cherry <sup>1,2</sup>	<i>Prunus spp.</i>
Chinaberry	<i>Melia azadarach</i>
Chinese tallow-tree	<i>Sapium sebiferum</i>
Chinquapin	<i>Castanopsis chrysophylla</i>
Cottonwood	<i>Populus trichocarpa and P. deltoides</i>
Cypress	<i>Taxodium spp.</i>
Dogwood <sup>1</sup>	<i>Cornus spp.</i>
Eucalyptus	<i>Eucalyptus spp.</i>
Hawthorn	<i>Crataegus spp.</i>
Hickory <sup>1</sup>	<i>Carya spp.</i>
Huckleberry	<i>Gaylussacia spp.</i>
Lyonia spp.	
Including: Fetterbush	
Staggerbush	
Lyonia lucida	
Lyonia mariana	
Madrone	<i>Arbutus menziesii</i>
Maple	<i>Acer spp.</i>
Melaleuca	<i>Melaleuca quinquenervia</i>
Mulberry <sup>1,3</sup>	<i>Morus spp.</i>
Oak <sup>1</sup>	<i>Quercus spp.</i>
Persimmon <sup>2</sup>	<i>Diospyros virginiana</i>
Poison oak	<i>Rhus diversiloba</i>
Popcorn tree	<i>Sapium sebiferum</i>
Poplar	<i>Populus spp.</i>
Privet	<i>Ligustrum vulgare</i>
Red Alder	<i>Alnus rubra</i>
Red Maple	<i>Acer rubrum</i>
Russian Olive	<i>Elaeagnus angustifolia</i>
Saltcedar	<i>Tamarix ramosissima</i>
Sassafras	<i>Sassafras albidum</i>
Sourwood <sup>2</sup>	<i>Oxydendrum arboreum</i>
Sumac	<i>Rhus spp.</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Sycamore	<i>Platanus occidentalis</i>
Tanoak <sup>1</sup>	<i>Lithocarpus densiflorus</i>
TiTi <sup>1</sup>	<i>Cyrilla racemiflora</i>
Tree of heaven	<i>Ailanthus altissima</i>
Vaccinium spp.	
Including: Blueberry	<i>Vaccinium spp.</i>
Sparkleberry	<i>Vaccinium arboreum</i>
Willow	<i>Salix spp.</i>
Yellow poplar	<i>Liriodendron tulipifera</i>

1 The higher rates should be used where heavy or well established infestations occur and for best control of Water, Laurel, Willow and Live oaks species.

2 Best control prior to formation of fall leaf color.

3 Degree of control may be species dependent.

4 Use a minimum of 75 GPA – control of established stands may require repeat applications.

## SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions. AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

### IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See Wind, Temperature and Humidity, and Surface Temperature Inversions sections of this label.

### Controlling Droplet Size - General Techniques

- Volume - - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using lowdrift nozzles.

### Controlling Droplet Size - Aircraft

- Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

### BOOM LENGTH AND HEIGHT

- Boom Length (aircraft) - The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.
- Boom Height (aircraft) - Application more than 10 ft above the canopy increases the potential for spray drift.

- **Boom Height (ground)** Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

### WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

**NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they effect spray drift.

### TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

### SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates a surface inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

### SENSITIVE AREAS

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

### ADDITIONAL USE PRECAUTIONS DRIFT CONTROL ADDITIVES

Drift control additives may be used with all spray equipment with the exception of controlled droplet applicators. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the label.

It is recommended that drift control additives be certified by the Chemical Producers and Distributors Association (CPDA).

### WIND EROSION

Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Do not store below 10°F. Store product in original container only. Store in a cool, dry place.

**Pesticide Disposal:** Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Handling: For plastic jugs and transfer containers:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. **For paper, plastic and/or fiber flexible bags and/or sacks:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag or sack in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. **For fiber drums with liners:** Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

**For plastic refillable drums:** Refillable container. Refill this container with imazapyr only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

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