

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

July 5, 2022

Rebecca A. Clemmer Senior Regional Regulatory Manager United Phosphorous, Inc. 630 Freedom Business Center, Suite 402 King of Prussia, PA 19406

Subject: Registration Review Label Mitigation for Pendimethalin

Product Name: SATELLITE 3.3 HERBICIDE

EPA Registration Number: 70506-318 Application Date: June 24, 2022

Decision Number: 551857

#### Dear Ms. Clemmer:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Pendimethalin Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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If you have any questions about this letter, please contact Srijana Shrestha by phone at 202-566-2329, or via email at <a hrestha.srijana@epa.gov.</a>

Sincerely,

Julie Javier, Team Leader

Risk Management and Implementation Branch 4

Pesticide Re-Evaluation Division

Office of Pesticide Programs

Enclosure: Stamped Label

# **Master Label Includes:**

Sublabel A: Agricultural Crop Uses Complete Directions for Use Sublabel B: Non-Agricultural Uses Complete Directions for Use



# Satellite® 3.3 Herbicide

UPL NA Inc. 630 Freedom Business Center, Suite 402 King of Prussia, PA 19406 1-800-438-6071 EPA Reg. No. 70506-318 EPA Est. No.

ACCEPTED

July 5, 2022

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 70500 0440

<sup>\*</sup> 70506-318

# Sublabel A: Agricultural Crop Uses Complete Directions for Use

pendimethalin GROUP 3 HERBICIDE

# Satellite® 3.3 herbicide

Active Ingredient:

 Other Ingredients:
 62.1%

(1 gallon contains 3.3 pounds of pendimethalin)

\*Contains aromatic naphtha

EPA Reg. No. 70506-318

**EPA Est. No.** 

# KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCIÓN

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

FIRST AID			
If swallowed	<ul> <li>Immediately call a poison control center or doctor.</li> <li>DO NOT induce vomiting unless told to do so by a poison control center or doctor.</li> <li>DO NOT give any liquid to person.</li> <li>DO NOT give anything by mouth to an unconscious person.</li> </ul>		
If in eyes	<ul> <li>Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
If on skin	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		

#### NOTE TO PHYSICIAN

Contains petroleum distillates. Vomiting may cause aspiration pneumonia. Because of increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent, vomiting should be induced only under professional supervision.

# **HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the rocky Mountain Poison Control Center at 1-866-424-6671 for emergency medical treatment information.

In case of emergency: spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

#### **Net Contents:**

UPL NA Inc.

630 Freedom Business Center, Suite 402

King of Prussia, PA 19406 • 1-800-438-6071

[optional wording for use on commercial labeling; location on printed labels may vary:

"See inside for additional Precautionary Statements and complete Directions for Use";

"See attached booklet for additional Precautionary Statements and complete Directions For Use";

"See containers inside for additional Precautionary Statements and complete Directions For Use".]

# **Precautionary Statements**

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION.** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

# Personal Protective Equipment (PPE)

# Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, or viton ≥ 14 mils
- · Shoes plus socks

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

# **Engineering Controls:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the 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 thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

# PHYSICAL AND CHEMICAL HAZARDS

Do not mix with or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

### **ENVIRONMENTAL HAZARDS**

This product is toxic to fish. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters or rinsate.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

# **Endangered Species Protection**

If endangered plant species occur in proximity to the application site, the following mitigation measures are required:

- If applied by ground, leave an untreated buffer zone of 200 feet. The product must be applied using a low boom (20 inches above the ground) and ASAE fine to medium/coarse nozzles.
- If applied by air, leave an untreated buffer zone of 170 feet. Must use straight-stream nozzles (D-6 or larger); wind can be no more than 8 mph; and release height must be 15 feet or less.

To determine whether your county has an endangered species, consult the website <a href="http://www.epa.gov/espp/usa-map.htm">http://www.epa.gov/espp/usa-map.htm</a>.

Endangered Species Bulletins may also be obtained from extension offices or state pesticide agencies. If the bulletin is not available for your specific area, check with the appropriate local state agency to determine if known populations of endangered species occur in the area to be treated.

# **Directions For Use**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This label must be in the possession of the user at the time of pesticide application.

Observe all precautions and restrictions in this label and the labels of products used in combination with **Satellite 3.3 herbicide**. The use of **Satellite 3.3 herbicide** not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

**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 protection.

**DO NOT** allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

DO NOT enter or allow other people (or pets) to enter the treated area until sprays have dried.

UPL NA intends that this product may not be used for manufacturing products for application to turf and ornamentals.

# 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 **24 hours**. **Exception**: if the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- Chemical-resistant gloves made of barrier laminate, or viton ≥ 14 mils
- Shoes plus socks

# **Product Information**

**Satellite 3.3 herbicide** is an emulsifiable concentrate formulation that provides selective control of most annual grasses and certain broadleaf weeds as they germinate. Refer to **Table 1** for a complete list of controlled weeds. **Satellite 3.3 herbicide** will not control established weeds.

Unusually cold, excessively wet, or hot and dry conditions that delay germination or extend germination over a long period of time can reduce weed control.

Over application can result in crop-stand loss, crop injury, or soil residues.

Uneven application or improper soil incorporation can decrease weed control or cause crop injury. Soil incorporation deeper than specified can reduce weed control.

Seedling diseases, cold weather, excessive moisture, shallow or deep planting, low or high soil pH, high soil salt concentration, or drought can weaken seedlings and plants and increase the possibility of crop damage from **Satellite 3.3 herbicide**. Under these conditions, crop yields can be reduced.

# **Weed Resistance Management**

For resistance management, SATELLITE 3.3EC is a Group 3 herbicide. Any weed population may contain or develop plants naturally resistant to SATELLITE 3.3EC and other Group 3 herbicides. Weed species with acquired resistance to Group 3 may eventually dominate the weed population if Group 3 herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of SATELLITE 3.3EC or other Group 3 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field. Whenever possible incorporate multiple weed control practices such as mechanical cultivation, biological management practices, and crop rotation.
- Use tank mixtures with herbicides from a different group if such use is permitted; where
  information on resistance in target weed species is available, use the less resistance-prone
  partner at a rate that will control the target weed(s) equally as well as the more resistance-prone
  partner. Consult your local extension service or certified crop advisor if you are unsure as to
  which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and
  uses historical information related to herbicide use and crop rotation, and that considers tillage (or
  other mechanical control methods), cultural (e.g. higher crop seeding rates; precision fertilizer
  application method and timing to favor the crop and not the weeds), biological (weed-competitive
  crops or varieties) and other management practices.
- Fields should be scouted before application to identify the weed species present and their growth stage to determine if the intended application will be effective. Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use
  of this product and switch to another management strategy or herbicide with a different mode of
  action (MOA), if available. Treat weed escapes with an herbicide with a different MOA or use nonchemical methods to remove escapes. To the extent possible do not allow weed escapes to
  produce seeds, roots, or tubers.
- Contact your local extension specialist, certified crop advisors, and/or manufacturer for additional herbicide resistance management and/or integrated weed management recommendations for

specific crops and resistant weed biotypes. Report any incidence of non-performance of this product against a particular weed species to your retailer or UPL NA at 1-800-438-6071.

Table 1. Weeds Controlled (See crop sections for additional weeds controlled)

	rolled with Satellite 3.3 herbicide applied up to 4.8 pts/A			
Grasses				
Barnyardgrass	Japanese brome*, a			
Canarygrass*, b	Johnsongrass (seedling)			
Cheat*, b	Jointed goatgrass*, a			
Crabgrass	Oat, wild*			
Crowfootgrass	Panicum, fall			
Downy brome* (Cheatgrass)	Panicum, Texas			
Foxtail, giant	Sandbur, field			
Foxtail, green	Shattercane*			
Foxtail, yellow	Signalgrass*			
Goosegrass	Wild proso millet*			
Hairy chess*, a	Witchgrass			
Itchgrass*	Woolly cupgrass*			
Italian ryegrass*				
	Broadleaves			
Amaranth, Palmer Mustard, black <sup>b</sup>				
Bugloss, small <sup>a</sup>	Pigweed species			
Carpetweed	Purslane			
Chickweed, common*	Pusley, Florida			
Henbit	Shepherdspurse*			
Kochia	Smartweed, Pennsylvania*			
Lady's thumb	Spurge, annual			
Lambsquarters, common	Velvetleaf*			
Lambsquarters, slimleaf Waterhemp species				
London rocket*				
*Suppression, but controlled when <b>Satellite 3.3 herbicide</b> use rate exceeds 4.8 pts/A. <sup>a</sup> Neither suppressed nor controlled in California. <sup>b</sup> Not controlled in California.				
Additional weeds controlled with Satellite 3.3 herbicide applied at 4.8 pts/A or greater				
Grasses				
Annual bluegrass	Lovegrass			
Browntop panicum	Sprangletop, Mexican			
Grass, Guinea <sup>b</sup>	Sprangletop, red			
Junglerice	Swollen fingergrass			
Broadleaves				
Dodder <sup>†</sup>	Prostrate, knotweed			

Fiddleneck	Puncturevine	
Morningglory**		
†For optimum dodder control, use the highest labeled rate of <b>Satellite 3.3 herbicide</b> specified in the specific		
crop.		
**Suppression		
<sup>b</sup> Not controlled in California.		

# **Soil Texture Groupings**

Use rates for **Satellite 3.3 herbicide** when used alone, in a tank mix, or sequential applications are given in **Crop-specific Information**. Use rates of this product vary by soil texture and organic matter. See **Table 2 below** for soil texture groupings used in this label.

**Table 2. Soil Texture Groups** 

	sands	
Coarse	loamy sands	
	sandy loams	
	sandy clay loams*	
	sandy clays	
Medium	loams	
	silt loams	
	silts	
	silty clay loams*	
Fine	silty clays	
	clay loams	
	clays	
* These soils are sometimes considered transitional		
sails and may be elegatical as either medium		

<sup>\*</sup> These soils are sometimes considered transitiona soils and may be classified as either mediumtextured or fine-textured soils.

If **Satellite 3.3 herbicide** is used on **peat and muck soils**, weed control may be inconsistent and/or reduced. Use the maximum labeled use rate allowed in the specific crop.

# **Application Timings**

**Satellite 3.3 herbicide** will provide most effective weed control when applied by ground or aerial equipment and subsequently incorporated into soil within 7 days after application by rainfall, sprinkler irrigation, or mechanical tillage prior to weed seedling emergence from soil. **Satellite 3.3 herbicide** can also be applied through chemigation, including flooded basin irrigation systems. Use **Satellite 3.3 herbicide** for preplant surface, preplant incorporated, surface incorporated, preemergence, early postemergence, postemergence incorporated (CULTI-SPRAY) or layby treatment. See **Crop-specific Information** for specific application directions by crop.

<u>Preplant Surface Applications</u>: For use in minimum tillage or no-tillage production systems, apply **Satellite 3.3 herbicide** alone or in tank mixes up to 45 days before planting. When making early preplant surface applications (15 to 45 days prior to planting), tank mix **Satellite 3.3 herbicide** or follow with a postemergence herbicide application. Rainfall or sprinkler irrigation within 7 days after application is required to move this product into the upper soil surface where weed seeds germinate.

<u>Preplant Incorporated Applications</u>: Apply **Satellite 3.3 herbicide** and incorporate into the upper 1 to 2 inches of soil surface up to 60 days before planting. Use an implement capable of giving uniform incorporation; two-pass incorporation usually results in a more consistent result.

<u>Surface Incorporated Applications</u>: Uniformly apply <u>Satellite 3.3 herbicide</u> as broadcast or banded treatment to soil surface underneath established trees and/or in ground areas between trees rows. Within 7 days after application, incorporate into upper 1 to 2 inches of soil surface using either rainfall, sprinkler irrigation, or shallow mechanical incorporation using an implement capable of giving uniform incorporation; two-pass mechanical incorporation usually results in a more consistent result.

<u>Preemergence Surface Applications</u>: Broadcast treatment uniformly to the soil surface at planting and up to 2 days after planting. Rainfall, sprinkler irrigation, or shallow mechanical incorporation within 7 days after application is required to move this product into the upper soil surface where weed seeds germinate. If adequate rainfall or irrigation does not occur and weed seedling emergence begins, a shallow cultivation or rotary hoeing will improve performance.

<u>Early Postemergence Applications</u>: Satellite 3.3 herbicide must be applied prior to weed seedling emergence or in a tank mix with products that control the emerged weeds. Refer to **Crop-specific Information** for specific postemergence application instructions by crop.

# Postemergence Incorporated Applications

(<u>CULTI-SPRAY</u>): Prior to application, crop must be cultivated in such a manner as to throw at least one inch of soil over the base of the crop plants. This will prevent direct contact of **Satellite 3.3 herbicide** and the zone of brace root formation. **Satellite 3.3 herbicide** must be applied broadcast with a ground sprayer when crop is at least 4 inches tall up to layby. Use drop nozzles if crop foliage will prevent uniform coverage of the soil surface within the rows. Thoroughly and uniformly incorporate **Satellite 3.3 herbicide** treatments into the soil with:

- (1) a sweep-type or rolling cultivator set to provide thorough incorporation in the top 1 inch of soil, or
- (2) adequate overhead irrigation water or rainfall. See **Crop-specific Information** (**Corn** and **Grain Sorghum**) for more details on (CULTI-SPRAY) application.

<u>Layby Application</u>: Apply **Satellite 3.3 herbicide** directly to the soil between rows as a directed spray following the last normal cultivation (layby). See **Crop-specific Information** for more details on layby application.

<u>Split Applications</u>: Satellite 3.3 herbicide may be applied preplant incorporated up to 60 days prior to planting and followed by a preemergence application at planting or up to 2 days after planting. The total amount of **Satellite 3.3 herbicide** applied per acre per season cannot exceed the highest labeled rate for any given soil type. See **Crop-specific Information** for more details on split applications.

<u>Fall Applications</u>: Satellite 3.3 herbicide may be used in fall application programs in certain crops. See Crop-specific Information for details on fall application timing.

# **Spraying Instructions**

**Satellite 3.3 herbicide** may be applied using either water or sprayable fluid fertilizer (such as straight 32-0-0 or 28-0-0) as the spray carrier. Additionally, **Satellite 3.3 herbicide** may be impregnated on dry bulk fertilizer. Sprayable fluid fertilizer as a carrier is not recommended for use after crop emergence unless the typical fertilizer burn symptoms on the crop are acceptable.

# **Aerial Application**

Uniformly apply in 5 or more gallons of water per acre. Exercise caution to minimize drift. Do not apply during periods of gusty winds or when wind conditions favor drifting. Spray drift can cause injury to sensitive crops. Use a flagging system or an automatic mechanical flagging unit on the aircraft to avoid overlapping and possible crop injury.

#### **Ground Application (Broadcast)**

Uniformly apply with properly calibrated ground equipment in 10 or more gallons of water per acre or 20 or more gallons of liquid fertilizer per acre. Use sprayers equipped with appropriate nozzles that provide uniform and accurate spray distribution and minimize drift. Keep the bypass line on or near the bottom of the tank to minimize foaming. Nozzle and in-line screens must be no finer than 50 mesh. Application of **Satellite 3.3 herbicide** during periods of gusty winds may result in uneven applications or unintended drift to sensitive areas (see spray drift management section). **DO NOT** apply **Satellite 3.3 herbicide** postemergence in liquid fertilizers.

If liquid fertilizer/herbicide(s) mixture separates in the spray tank, clogged equipment and uneven application can result.

# **Compatibility Jar Test**

Always predetermine the compatibility of **Satellite 3.3 herbicide** alone or with other herbicides based on the following compatibility "jar test":

- 1. Add 1 pint of fertilizer to a quart jar.
- 2. Add 1 to 4 teaspoon(s) of the Dry Flowable (DF), Wettable Powder (WP), Aqueous Solution (AS), Flowable (F) or Liquid (L) formulation (depending on mixing ratio required) to the liquid fertilizer. The number of teaspoons of the formulation to add can be determined by the following formula:

lbs or pts of product/acre gallons of fertilizer/acre x 11.4 = number of teaspoons of herbicide to add to 1 pint of fertilizer

- 3. Close the jar and agitate until the herbicide(s) are evenly dispersed in the liquid fertilizer. If the materials do not disperse well, it may be necessary to slurry the chemicals in water before adding to the fertilizer.
- 4. After dispersing the materials, add appropriate number of teaspoons of **Satellite 3.3 herbicide** to the jar and shake well. Add water soluble concentrate herbicides to the mixture last and agitate. Let the mixture stand for 30 minutes and then observe the results. Look for signs of separation: an oily layer or globules, sludge, flakes or other precipitates.
- 5. Evaluate compatibility.
  - (a) If the herbicide(s) and liquid fertilizer mixture does not separate, use this mixture in your spray tank.
  - (b) If the mixture separates but mixes readily with shaking, the mixture can be used provided that good agitation is maintained in the spray tank.
  - (c) If separation of the mixture occurs and agitation does not correct this problem, a compatibility agent is needed.
- 6. If the need for a compatibility agent is demonstrated, the following procedure is recommended: Using a clean quart jar, repeat step 1 above and add 1/2 teaspoon of the compatibility agent to the liquid fertilizer. Mix well and repeat steps 2, 3 and 4. If separation or precipitation occurs with the compatibility agent, do not use **Satellite 3.3 herbicide** with that specific liquid fertilizer.

# **Ground Applications (Band)**

Uniformly apply the broadcast equivalent rate and volume per acre. To determine these:

Band Width in Inches Row Width in Inches	Χ	Broadcast Rate per Acre	=	Band Rate per Acre
Band Width in Inches Row Width in Inches	X	Broadcast Volume per Acre	=	Band Volume per Acre

# **Ground Applications (Dry Bulk Fertilizer)**

Apply **Satellite 3.3 herbicide**/dry bulk fertilizer mixtures only with ground equipment. Do not impregnate **Satellite 3.3 herbicide** onto coated ammonium nitrate or limestone because these materials will not absorb the herbicide. Dry fertilizer blends containing mixtures of ammonium nitrate or limestone may be impregnated with **Satellite 3.3 herbicide**. A minimum of 200 pounds of impregnated dry bulk fertilizer, excluding the weight of ammonium nitrate or limestone, must be applied per acre.

Use the following formula to determine the amount (in pints) of **Satellite 3.3 herbicide** to be impregnated on a ton of dry bulk fertilizer based on the rate of fertilizer to be applied per acre:

2000		Pints of		Pints of
Pounds of Dry Fertilizer per Acre	Y	Satellite 3.3	=	Satellite 3.3
	^	herbicide	_	herbicide per Ton
		(Rate per Acre)		of Fertilizer

To impregnate **Satellite 3.3 herbicide** on bulk fertilizer, use a closed rotary-drum mixer or other commonly used dry bulk fertilizer blender equipped with suitable spray equipment. Spray nozzles must be placed to provide uniform coverage of **Satellite 3.3 herbicide** onto the fertilizer during mixing.

Apply the **Satellite 3.3 herbicide**/dry bulk fertilizer mixture with an accurately calibrated dry fertilizer spreader. The **Satellite 3.3 herbicide**/dry bulk fertilizer mixture must be spread uniformly on the soil surface.

# **Chemigation Application via Sprinkler Irrigation Systems**

**Satellite 3.3 herbicide** may be applied as a chemigation treatment through sprinkler irrigation systems. Refer to **Crop-specific Information** sections for individual crops. **DO NOT** apply **Satellite 3.3 herbicide** via chemigation to crops unless specified in **Crop-specific Information** section.

Apply this product **ONLY** through a sprinkler irrigation system of the following type: center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move.

**DO NOT** apply this product through any other type of sprinkler irrigation system.

Uniform distribution of **Satellite 3.3 herbicide**-treated irrigation water is the sole responsibility of the applicator and is required to avoid crop injury, lack of herbicide effectiveness or illegal pesticide residues in the crop. If you have any questions about calibration, contact your state extension service specialists, equipment manufacturers, or other experts.

The system must be properly calibrated (with water only) to ensure that the amount of **Satellite 3.3 herbicide** applied corresponds to the specified rate. Apply **Satellite 3.3 herbicide** in 1/2 to 3/4 inches of water during the first sprinkler set (use at least 1 inch of water in the states of Texas, New Mexico and Oklahoma). Maintain agitation in the injection nurse tank to keep a uniform herbicide suspension during application. When application is complete, flush the system with water.

# **Chemigation Instructions (for low volume micro sprinklers)**

Output of low volume sprinkler = 4 to 50 gallons per hour (gph) per emitter. Point of application MUST be above ground.

Irrigation system should run a sufficient amount of time prior to **Satellite 3.3 herbicide** injection to have all emitters functioning properly. After system is operating properly, length of injection should be such that at one period of time during the injection, the first and last emitters in the system contain **Satellite 3.3 herbicide**-treated water. Add **Satellite 3.3 herbicide** to the supply tank already filled with the volume of water required for the injection period. Maintain proper agitation in **Satellite 3.3 herbicide** injection tank. Mix **Satellite 3.3 herbicide** in clean water and inject down-line from filters. Following **Satellite 3.3 herbicide** injection, system should be flushed for a period of time sufficient to clear the line of **Satellite 3.3 herbicide**. (If **Satellite 3.3 herbicide** application is made during a normal irrigation cycle, make injection during the last stage.)

# **Chemigation Calibration (for low volume micro sprinklers)**

Calculation of use rate is based on wetted area around emitters - **NOT** on tree acres. To determine correct amount of **Satellite 3.3 herbicide**, use the following formula:

- 1. Treated area per each emitter = A A = 3.14 x (radius x radius)
- 2. The area in square feet wet in each acre = B
  B = Ax emitters/acre
  144
- The total area (in square feet) wet by your system = C
   C = B x acres covered by system.
- 4. Rate per treated acre of **Satellite 3.3 herbicide** (based on length of control desired) = R

Amount of Satellite 3.3 herbicide to inject = S

$$S = \frac{C}{43,560} \quad \text{x R = qts of Satellite 3.3}$$
 herbicide

#### **Example:**

If the average distance from emitter to perimeter of wetted area measured one inch below soil surface is 13 inches, then

 $A = 3.14 \times (13'' \times 13'')$ , and A = 530.7 square inches.

If there are 300 emitters per acre, then

B =  $\frac{530.7 \times 300}{144}$  and B = 1105.6 square feet wetted per acre.

If the system covers 20 acres, then

C = 1105.6 square feet per acre x 20 acres and

C = 22,112 square feet wetted by system.

If the desired application rate per treated acre is 2.4 qts of Satellite 3.3 herbicide, then

 $S = \frac{22,112}{43,560}$  x 2.4 and S = 1.2 qts of **Satellite 3.3 herbicide** to be injected into the system.

# **Special Restrictions for Chemigation**

- 1. DO NOT apply when wind speed favors drift beyond the area intended for treatment.
- 2. Should the need arise, a person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments.
- 3. The pesticide injection pipeline must contain a functional, automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump. It must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4. The sprinkler chemigation system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. In addition, systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 5. The sprinkler chemigation system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

# **Chemigation Systems Connected to Public Water Systems**

- 1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3. All chemigation systems connected to public water systems must also follow restrictions listed in the preceding section.

# **Applications via Flooded Basin Irrigation Systems**

**Satellite 3.3 herbicide** may be applied via flooded basin irrigation systems, but only to the following crops: nonbearing fruit and nut trees, nonbearing vineyards, and alfalfa grown for seed production.

# Use Instructions and Restrictions for Flooded Basin Irrigation

- 1. **Satellite 3.3 herbicide** may be applied through flooded basin irrigation systems designed to uniformly distribute irrigation water along the soil surface. Solid set systems utilizing tall riser for overhead application are excluded.
- 2. Follow all label directions for **Satellite 3.3 herbicide** regarding rates per acre, timing of application, and crop-specific restrictions and precautions.
- 3. **DO NOT** connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 4. Should the need arise, a person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments.
- 5. For best results, mix **Satellite 3.3 herbicide** with water at a 1:1 ratio in the injection nurse tank to assist with product flowability. Maintain agitation in the injection nurse tank to keep a uniform herbicide suspension during application. When application is complete, flush the system with water.
- 6. Tail water (runoff water) from flood irrigation that contains **Satellite 3.3 herbicide** must be re-circulated and contained in the field of initial application or used only on adjacent tree or vine crops or alfalfa for which **Satellite 3.3 herbicide** is registered for this type of application.
- 7. Systems using a gravity-flow pesticide dispensing system must meter the pesticide in the water at the head of the field downstream of a hydraulic discontinuity, such as a drop structure or weir box, to decrease potential for water source contamination from backflow water.
- 8. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
  - The system must contain a functional check valve, vacuum-relief valve, and low-pressure drain appropriately located in the irrigation pipe to prevent water source contamination from backflow.
  - The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent flow of fluids back towards the injection pump.
  - The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
  - The system must contain a functional interlocking control to automatically shut off the pesticide injection pump when the water pump stops.
  - The irrigation pipe or water pump must include a functional pressure switch, which will stop the pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
  - Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump), of effective design and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
  - Any alternative to the above safety devices must conform to the list of EPA-approved alternative devices.
- 9. Be sure to regularly measure the flow in the field to ensure the correct amount of **Satellite 3.3** herbicide is being metered into the irrigation water and also regularly monitor to ensure that treated water is being uniformly distributed across the field. Flow rates through metering devices and distribution of **Satellite 3.3 herbicide** can vary with water temperature and speed of water flow across the field.
- 10. Uniform distribution of **Satellite 3.3 herbicide**-treated irrigation water is the sole responsibility of the applicator and is required to avoid crop injury, lack of herbicide effectiveness, or illegal pesticide residues in the crop.
- 11. If you have questions about calibration, contact your state extension service specialists, equipment manufacturers or other experts.

# **Spray Drift**

# Aerial Applications:

- Do not release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must not exceed 65% of the wingspan for fixed wing aircraft or 75% of the rotor diameter for helicopters. Otherwise, the boom length must not exceed 75% of the wingspan for fixed wing aircraft or 90% of the rotor diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply during temperature inversions.

# **Ground Boom Applications:**

- Applicators must only apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

# **Boom-less Ground Applications:**

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

# Hand-held Technology Applications:

Take precautions to minimize spray drift.

# **Spray Drift Advisories**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

# IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

# Controlling Droplet Size - Ground Boom

- Volume increasing the spray volume so that larger droplets are produced will reduce spray drift.
   Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle use the spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

# **Controlling Droplet Size – Aircraft**

Adjust Nozzles – follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

#### **BOOM HEIGHT - Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft - Higher release heights increase the potential for spray drift.

**SHIELDED SPRAYERS** - Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**TEMPERATURE AND HUMIDITY -** When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

**TEMPERATURE INVERSIONS** - Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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 an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**WIND** - Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUST WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

#### **Sensitive Areas**

Apply this pesticide only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or nontarget crops or plants) is minimal (e.g. when wind is blowing away from the sensitive areas).

# **Spray Additives**

Spray adjuvants have little or no influence on performance of **Satellite 3.3 herbicide** when applications are made prior to weed emergence. However, several tank mixes with **Satellite 3.3 herbicide** require adjuvants to improve burndown of emerged weeds. Therefore, surfactants, liquid fertilizer (28%, 30%, or 32% UAN (urea ammonium nitrate) or ammonium sulfate), or crop oil concentrate may be used with **Satellite 3.3 herbicide** tank mixes applied preplant, preemergence, or early postemergence to the crop. Follow the adjuvant directions on the tank mix partner's label.

When an adjuvant (or a specific adjuvant product, such as a drift control agent) is to be used with this product, the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant is recommended. The adjuvants must contain ingredients accepted by the EPA.

#### **Tank Mixes**

**Satellite 3.3 herbicide** may be applied in a tank mix or a sequential application with other herbicides registered for use in a given crop. Refer to the companion label for weeds controlled in addition to **Satellite 3.3 herbicide** alone.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. When using tank mixtures or sequential applications with **Satellite 3.3 herbicide**, always read the companion product label(s) to determine the specific use rates by soil types, weed species, and weed or crop growth stage. In addition, follow all precautions and restrictions including state and local use restrictions that may apply to specific products. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Always perform a jar mixing test to check the compatibility of **Satellite 3.3 herbicide** with all potential tank mix partners.

#### **Mixing Instructions**

1. Fill tank 1/2 to 3/4 full with clean water or liquid fertilizer and agitate. Prior to mixing **Satellite 3.3 herbicide** or **Satellite 3.3 herbicide** tank mixtures in liquid fertilizer, refer to appropriate label sections for uses in liquid fertilizer, application instructions, and compatibility determinations.

**NOTE:** Satellite 3.3 herbicide will **NOT** mix in high salt formulation fertilizers, such as 10-34-0. When utilizing high salt formulation fertilizers as the spray carrier, use one of the following:

- (a) Pre-slurry **Satellite 3.3 herbicide** in water prior to adding to tank; use 1:1 ratio of water to **Satellite 3.3 herbicide**.
- (b) Add water to fertilizer solution prior to adding **Satellite 3.3 herbicide**. The amount of water should be equal to or greater than the amount of **Satellite 3.3 herbicide** to be used.

#### 2. Satellite 3.3 herbicide Alone

When using **Satellite 3.3 herbicide** alone, add **Satellite 3.3 herbicide** to the partially filled tank while agitating and then fill the remainder of the tank with water or liquid fertilizer.

#### 3. Satellite 3.3 herbicide Tank Mixes

Add the tank mixture ingredients in the order listed below prior to adding **Satellite 3.3 herbicide**. (for tank mixtures with 2,4DB, paraquat, or glyphosate, see mixing instructions at the end of this section):

- (a) **Wettable Powder (WP) formulations -** Make a slurry of the WP in water (1:2 ratio). Add the slurry slowly into the partially filled tank while agitating.
- (b) **Dry Flowable (DF)/Water Dispersible Granule (WDG) formulations -** Add the granules to the partially filled tank while agitating. Make a slurry of the granules in water before adding to liquid fertilizer.
- (c) Flowable (F) formulations Add the F formulation to the partially filled tank while agitating.
- (d) **Water Soluble Concentrate (WSC) formulations -** Add the WSC formulation to the partially filled tank while agitating.
- (e) **Emulsifiable Concentrate (EC) formulations -** Add the EC formulation to the partially filled tank while agitating.

After complete mixing, add Satellite 3.3 herbicide to the tank.

- (f) **NOTE:** For tank mixes including 2,4DB, paraquat, or glyphosate: After complete mixing of **Satellite 3.3 herbicide**, continue filling the sprayer with water and add 2,4DB, paraquat, or glyphosate near the end of the filling process.
  - If paraquat is included in the tank mixture, add 8 oz of non-ionic surfactant per 100 gallons of total spray mixture as the last ingredient in the tank.
- Fill the remainder of the tank with water or liquid fertilizer while agitating.
- 4. Thorough and continuous sprayer-tank agitation **MUST** be maintained during mixing and spraying of **Satellite 3.3 herbicide**. If the spray mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

#### **Cleaning Spray Equipment**

Clean application equipment thoroughly by using a strong detergent or commercial spray cleaner according to the manufacturer's directions, and then triple rinsing the equipment before and after applying this product.

# **Restrictions and Precautions**

# Restrictions

DO NOT exceed the maximum labeled rate for any soil type.

It is the pesticide user's responsibility to ensure that all products in tank mixtures are registered for the intended use. Users must follow the most restrictive directions and precautionary language of the products in the mixture (for example, first aid from one product, spray drift management from another).

#### **Precautions**

**Satellite 3.3 herbicide** will not control established weeds. Destroy emerged weeds prior to application. When using tank mixtures with **Satellite 3.3 herbicide**, always read the companion product label(s) to determine the specific use rates by soil types, weed species, and weed or crop growth stage. In addition, follow all precautions and restrictions including state and local use restrictions that may apply to specific products. Always follow the most restrictive label.

**Satellite 3.3 herbicide** is most effective in controlling weeds when mechanically incorporated or when incorporated into the weed germination zone by adequate rainfall or overhead irrigation after application.

- In the event of a crop loss due to adverse weather conditions or other reasons, any crop registered for a preplant incorporated application of **Satellite 3.3 herbicide** can be replanted without adverse effects the same year (see **Crop-specific Information** for exceptions). If replanting is necessary, DO NOT work the soil deeper than the treated zone.
- Refer to Crop-specific Information for crop-specific preharvest intervals and feeding and grazing restrictions.

#### **CROP ROTATION**

Use of **Satellite 3.3 herbicide** in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various environmental and agronomic factors, such as arid conditions, make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible. Soil characteristics and environmental conditions which may contribute to crop stress that may be accentuated by the use of **Satellite 3.3 herbicide** include: coarse soils, compaction, high salinity, eroded knolls/hilltops, cold and/or wet soils, drought, and heavy rainfall soon after application.

When **Satellite 3.3 herbicide** is used in tank mix or sequential combinations, refer to labels of other herbicides for additional rotational crop restrictions.

Restrictions for rotational cropping after the use of Satellite 3.3 herbicide are dependent on the application use rate of Satellite 3.3 herbicide in the primary crop. The user must thoroughly read the following restrictions to determine the rotational crops for their specific situation, according to application use rate.

## **Rotational Crop Restrictions**

1. Rotational Crop Restrictions Following Applications of Satellite 3.3 herbicide applied to Field and Row Crops where the application rate was LESS THAN or EQUAL TO 4.8 pts/A (2.0 lbs ai/A)

Rotational Crop	Plantback Restriction	Comments
Any labeled crop for preplant incorporation application	Can be planted the same season in which Satellite 3.3 herbicide was applied.	
Red beets	12 months following a spring application	To ensure thorough mixing
Sugar beets	of Satellite 3.3 herbicide, or 14 months following a fall application of Satellite 3.3	of soil prior to planting, plow the land using a moldboard
Spinach	herbicide	plow to a depth of 12 inches.
	If rainfall or irrigation was not sufficient enough to produce a field or row crop, wait 18 months following a spring application of Satellite 3.3 herbicide and 20 months following a fall application of Satellite 3.3 herbicide.	
Proso Millet	10 months following a spring application	
Sorghum (Milo)	of Satellite 3.3 herbicide, or 12 months following a fall application of Satellite 3.3	
Annual or Perennial Grass Crops or Mixtures	herbicide except under the following conditions.	
	In the states of Minnesota, North Dakota and South Dakota plantback restrictions are 18 months following a spring application of Satellite 3.3 herbicide, or 21 months following a fall application of Satellite 3.3 herbicide.	

	To avoid possible crop injury in areas that receive less than 20-inches of rainfall or irrigation to produce a crop, these crops may not be planted for 18 months following a spring application of Satellite 3.3 herbicide, or 20 months following a fall application of Satellite 3.3 herbicide if rainfall or irrigation was not sufficient to produce a field or row crop.	
Barley Wheat	4 months except under the following conditions.	
	If less than 12 inches of rainfall or overhead irrigation was received between application of Satellite 3.3 herbicide and rotational crop planting, wheat may not be planted before 12 months after a spring application of Satellite 3.3 herbicide, or 14 months after a fall application of Satellite herbicide.	
	In dryland areas and/or areas where irrigation is necessary to produce the crop treated with Satellite 3.3 herbicide, do not plant winter wheat or barley as a follow crop if crop failure/destruction occurs and the land is fallowed during the summer.	
All other rotational crops not identified above	Rotational crops may be planted the year following a Satellite 3.3 herbicide application except under the following conditions.	
	If rainfall or irrigation was not sufficient to produce a field or row crop, delay planting of the rotational crop for 18 months following a spring application of Satellite 3.3 herbicide, or 20 months following a fall application of Satellite 3.3 herbicide.	

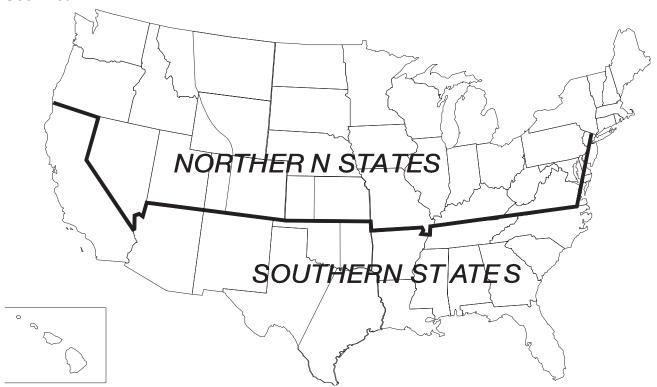
# 2. Rotational Crop Restrictions Following Applications of Satellite 3.3 herbicide applied to Field and Row Crops where the application rate was GREATER THAN 4.8 pts/A

In the growing season following application of **Satellite 3.3 herbicide** to field and row crops at greater than 4.8 pts/A, plant only those crops for which **Satellite 3.3 herbicide** is labeled for preplant incorporated treatment or crop injury may occur. Do not plant other crops for 24 months.

# 3. Rotational Crop Restrictions Following Applications of Satellite 3.3 herbicide to Nut Crops, Fruit Trees, Vineyard Crops

In the growing season following application of **Satellite 3.3 herbicide** to fruit and nut trees, plant only those crops for which **Satellite 3.3 herbicide** is labeled for preplant incorporated treatment or crop injury may occur. Do not rotate to other crops (except for nut crops, fruit trees, or grapes) for 24 months following a **Satellite 3.3 herbicide** application to fruit or nut trees.

# **Use Area**



# **Crop-specific Information**

Satellite 3.3 herbicide use may result in crop injury, loss or damage to certain crops under a number of conditions, including but not limited to agronomic, cultural, mechanical, and environmental. Numerous risks of loss or damage to certain crops may be associated with the use of Satellite 3.3 herbicide even when directions for use are followed completely. The user or grower must take all such risks into consideration before deciding to apply the product. UPL NA recommends testing on a small portion of the target crop to determine if damage is likely to occur. Each grower who is considering the product for such use should test Satellite 3.3 herbicide in order to determine its suitability. A grower should use Satellite 3.3 herbicide only to the extent that in his sole opinion the benefit of Satellite 3.3 herbicide use outweighs the potential injury to the grower's crop.

In addition, many factors can affect crop growth and/or yield, including but not limited to, insects, diseases, weed competition, poor seed quality, improper planting depth, mechanical cultivation, poor weather (such as freezing or excessive wind, rain, heat, or cold), lack of or excessive moisture, crusting, fertility, or hardpans. Risk of loss or damage to crops may be associated with the use of **Satellite 3.3** herbicide and contribute to poor stands due to failure of crop to emerge, swelling of roots or other belowground plant parts, less vigorous plant growth and development, and reduction in yield potential. **Satellite 3.3** herbicide may also cause injury to sensitive rotational crops.

# ALFALFA (Grown for Forage, Hay, or Seed)

**Application Methods:** Apply by ground, air, chemigation, flooded basin irrigation systems, or on dry bulk fertilizer.

### Use Methods, Timings and Use Rates

**Established Alfalfa for Forage/Hay** Apply to established alfalfa grown for forage or hay (defined as alfalfa planted in the fall or spring which has gone through a first cutting/mowing). Apply at a broadcast rate of **1.2 to 4.8 quarts** per acre prior to weed emergence. Applications can be made in the fall after the last mowing/cutting, during winter dormancy, in the spring, or between cuttings. Make applications prior to the alfalfa reaching 6 inches in regrowth.

**Established Alfalfa Grown for Seed Production.** Apply to established alfalfa grown for seed production (defined as alfalfa planted in the fall or spring that has gone through a summer season of cutting/mowing). Uniformly apply **Satellite 3.3 herbicide** at a broadcast rate of **1.2 to 4.8 quarts per acre** prior to weed emergence in **one** of the following ways:

- Apply to dormant established alfalfa.
- Apply before alfalfa exceeds 10 inches in height after first mowing/beating.
- When the alfalfa reaches 10 inches in height or if the alfalfa has been mowed/beaten 2 or more times, **Satellite 3.3 herbicide** must be applied with drop nozzles directing the spray so that there is little to no contact with the foliage.

**Seedling Alfalfa.** Seedling alfalfa is defined as alfalfa planted in the fall or spring which has **not** gone through a cutting/mowing.

Uniformly apply Satellite 3.3 herbicide at a broadcast rate of 1.2 to 2.4 pints per acre prior to weed emergence. Applications can be made once the seedling alfalfa has reached the 2<sup>nd</sup> trifoliate stage of growth. Apply prior to the alfalfa reaching 6-inches in growth.

**Alfalfa Stand Establishment:** Apply at a broadcast rate of 1.2 to 1.8 pints per acre as a preplant incorporated or preemergence treatment in direct-seeded alfalfa. Use the lower rates on coarse-texture soil or in lower rainfall areas (receiving less than 20 inches of rainfall and irrigation a year). Some crop stand reduction and stunting may occur with this use of Satellite 3.3 herbicide; however, reduced weed competition will allow establishment of a quality stand.

- Preplant Incorporated Incorporate uniformly into the top 2 to 3 inches of the final seedbed prior to planting.
- Premergence Apply directly after drill seeding alfalfa. Plant alfalfa into a seedbed that is firm and free of clods.

#### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation systems. Follow all special instructions and restrictions in the section covering **Chemigation** in **Spraying Instructions**.

#### Flooded Basin Irrigation Systems

**Satellite 3.3 herbicide** may be applied in flooded basin irrigation systems. Follow all special instructions and restrictions in the section covering **Flooded Basin Irrigation** in **Spraying Instructions**.

#### **Precautions**

Some stunting and chlorosis of the alfalfa may occur with postemergence applications.

Applications made after the alfalfa exceeds 6 inches in height may result in poor weed control due to possible reduced spray coverage to the soil.

#### Restrictions

- DO NOT apply more than 4.8 quarts of **Satellite 3.3 herbicide** per acre in any one crop season.
- For multiple applications, **DO NOT** exceed a cumulative total of 4.8 quarts per acre in any one-crop season.
- Pre-harvest Interval (PHI): **DO NOT** harvest alfalfa forage or hay less than 28 days after applying 2.4 quarts or less of **Satellite 3.3 herbicide**.
- Pre-harvest Interval (PHI): **DO NOT** harvest alfalfa forage or hay less than 50 days after applying more than 2.4 quarts of **Satellite 3.3 herbicide**.

- DO NOT utilize the 28-day preharvest interval for alfalfa hay more than once per cropping season.
- Pre-harvest Interval (PHI): DO NOT apply Satellite 3.3 herbicide less than 90 days prior to alfalfa harvest for seed.

Follow all precautions and restrictions on the labels of all products applied in combination with **Satellite 3.3 herbicide**. Always follow the most restrictive label.

# **ARTICHOKE**

Application Methods: Apply by ground or air.

#### **Use Methods, Timings and Use Rates**

With a single application, uniformly apply to artichokes up to and including **3.6 pints per acre** as a broadcast spray to the soil surface at least 60 days prior to harvest, or uniformly apply to artichokes from **3.6 to 9.4 pints per acre** as a broadcast spray to the soil surface at least 200 days prior to harvest. Application must be made pre-transplant to artichoke, at no less than 1 to 2 days prior to transplanting.

PreHarvest Interval (PHI): 60 days for rates up to and including 3.5 pints per acre; 200 days for rates 3.6 – 9.4 pints per acre.

#### Restrictions

- DO NOT apply postemergence over-the-top of or to foliage of artichoke because severe injury may occur.
- Pre-harvest Interval (PHI): **DO NOT** apply more than 3.5 pints per acre per season when utilizing the 60-day pre-harvest interval.
- Pre-harvest Interval (PHI): If more than 3.6 pints per acre (up to 9.4 pints per acre) is applied, **DO NOT** harvest artichokes until 200 days after application.
- DO NOT apply more than 9.4 pints per acre per season.
- **DO NOT** feed forage or graze livestock in treated fields.

# **ASPARAGUS**

Application Methods: Apply by ground or air.

#### **Use Methods, Timings and Use Rates**

Apply only to established asparagus, or to newly planted crown asparagus. **DO NOT** apply to newly seeded asparagus. When applying to newly planted crown asparagus, assure crowns are fully covered with 2 to 4 inches of soil.

With a single application, uniformly apply to asparagus up to **9.4 pints per acre** as a broadcast spray to the soil surface at least 14 days prior to the first spear harvest or after seasonal harvest is complete. Application must be made prior to spear emergence or remove emerged spears prior to making the application. If asparagus is grown on sandy soils, **DO NOT** apply Satellite 3.3 herbicide at more than 2.8 pts per acre.

Preharvest Interval (PHI): 14 days.

#### Restrictions

- DO NOT apply postemergence over- the- top of emerged spears as severe injury may occur.
- **DO NOT** apply more than 9.4 pints per acre per season.
- DO NOT feed forage or graze livestock in treated fields.
- **DO NOT** apply by chemigation methods.

# LEAF LETTUCE

**Application Methods:** Apply by ground or air.

#### **Use Methods, Timings and Use Rates**

With a single application, uniformly apply up to **2.4 pints per acre** as a broadcast foliar spray to either direct-seeded or transplanted leaf lettuce from the-3-leaf stage until 20 days before harvest.

Preharvest Interval (PHI): 20 days before leaf harvest.

#### Restrictions

- **DO NOT** apply preplant or pretransplant or preemergence (direct-seeded) to leaf lettuce because severe injury may occur.
- DO NOT foliar apply to leaf lettuce before the 3-leaf growth stage because severe injury may occur.
- **DO NOT** apply more than 2.4 pints per acre per season.

#### LEAFY BRASSICA GREENS

Mustard greens, Broccoli raab, Chinese cabbage (bok choy), Collards, Kale, Mizuna, Mustard spinach, Rape greens, Turnip greens (cultivars of varieties grown for leaves only)

**Application Methods:** Apply by ground or air.

## **Use Methods, Timings and Use Rates**

With a single application, uniformly apply up to 2.4 pints per acre as a broadcast foliar spray to either direct-seeded or transplanted leafy Brassica greens at the 4-leaf to 5-leaf stage.

Preharvest Interval (PHI): 21 days.

#### Restrictions

- **DO NOT** apply preplant, pre-transplant, or preemergence (direct-seeded) to leafy Brassica greens because severe injury may occur.
- DO NOT foliar apply to leafy Brassica greens before the 4-leaf growth stage because severe injury may
  occur.
- **DO NOT** apply to turnip greens varieties grown for roots or to dual-purpose varieties grown for roots and tops.
- DO NOT use treated turnip greens roots for any feed or food purpose.
- DO NOT apply more than 2.4 pints per acre per season.

# **BRASSICA HEAD AND STEM VEGETABLES**

Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Chinese Broccoli, Chinese Cabbage (napa), Chinese Mustard Cabbage, Cavalo Broccolo, Kohlrabi

Application Methods: Apply by ground or air.

#### **Use Methods, Timings and Use Rates**

Uniformly apply as a preplant surface application prior to transplanting, or as a postemergence application.

Uniformly apply only by ground as a postemergence-directed application to transplanted or established direct-seeded Brassica head and stem vegetables.

**DO NOT** apply prior to direct-seeded Brassica head and stem vegetables.

With a single application, apply up to 2.4 pints per acre to Brassica head and stem vegetables as a broadcast or banded spray to the soil surface at pre-transplant time; or as a broadcast postemergence foliar spray; or as a postemergence-directed spray between vegetable rows. Apply postemergence or postemergence-directed to 2-leaf to 4-leaf vegetable transplants at 1 to 3 days after transplanting, or to the 2-leaf to 4-leaf stage of direct seeded vegetable plants.

Apply as a postemergence-directed spray on the soil at the base of Brassica head and stem vegetable plants, beneath plants, and between rows. Avoid direct spray contact with foliage or stems because crop injury may occur. Be sure roots of transplants are established. Following the postemergence-directed spray and when sufficient rainfall or irrigation does not occur, mechanically incorporate to activate the herbicide. Apply **Satellite 3.3 Herbicide** prior to weed germination for optimum control. Emerged weeds will not be controlled by this treatment.

#### **Use Rates**

Pre-transplant, Postemergence or Postemergence-directed

Soil Texture	Broadcast Rate	
Coarse	1.2 to 1.8 pts/A	
Medium	1.8 to 2.4 pts/A	
Fine	1.8 to 2.4 pts/A	

PreHarvest Interval (PHI): 60 days for broccoli, 70 days for cabbage or other Brassica head and stem vegetables.

#### Restrictions

- DO NOT apply more than 2.4 pints per acre per season.
- DO NOT feed forage or graze livestock in treated fields.
- DO NOT apply via chemigation methods.

#### **Precautions**

- Avoid root contact with Satellite 3.3 Herbicide-treated soil when placing transplants into furrow or hole, or crop injury may occur.
- Avoid overlapping spray patterns because crop injury can occur.

# **CARROTS**

**Application Methods:** Apply by ground, air, or chemigation.

# **Use Methods, Timings and Use Rates**

**Preemergence.** Make a single broadcast application at **2.4 pints per acre** as a postplant treatment prior to emergence of the crop and before weed germination. Apply as a preemergence treatment within 2 days after planting.

**Layby**. Apply only by ground equipment at layby (last mechanical cultivation) at **2.4 pints per acre** as a directed spray to the soil between rows. Apply prior to weed germination. Emerged weeds will not be controlled by this treatment. **DO NOT** allow the spray to contact carrot plants or injury may occur. **DO NOT** apply layby applications by chemigation or by air.

# **Chemigation Applications**

Apply through sprinkler irrigation systems. Follow all directions, special instructions and restrictions about chemigation in the **Chemigation Application and Instruction** section of this label. **DO NOT** allow **Satellite 3.3 herbicide**-treated irrigation water to contact carrot plants.

**DO NOT** apply tank mixtures through any type of irrigation system unless the label instructions on chemigation of all products are followed.

Preharvest Interval (PHI): 60 days.

### Restrictions

- **DO NOT** apply more than 2.4 pints per acre per season.
- **DO NOT** feed forage or graze livestock in treated fields.
- DO NOT apply as a broadcast spray over top of carrots or crop injury may result.
- DO NOT apply layby applications by chemigation or by air.

# **CARROTS GROWN FOR SEED PRODUCTION**

Application Methods: Apply by ground.

# Use Methods, Timings and Use Rates

**Last Cultivation (Layby).** Satellite 3.3 herbicide may only be applied following the last normal mechanical cultivation (layby) at a rate of **1.2 to 4.8 pints per acre** (on a broadcast basis). Uniformly apply as a directed spray to the soil between rows. **DO NOT** allow the spray to contact carrot plants or

injury may occur. Use protective shields to avoid contact with carrot foliage. Use properly calibrated and accurate nozzles and equipment.

Layby applications can be applied to carrots previously treated with herbicides registered in/on carrots. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in carrots and for follow crop restrictions.

Preharvest Interval (PHI): 60 days before carrot seed harvest.

#### Restrictions

- DO NOT apply layby applications by chemigation or by air.
- DO NOT apply as a broadcast spray over top of carrots or crop injury may result.
- DO NOT feed, forage or graze livestock in treated fields.
- DO NOT harvest carrots for food or feed use.

#### **Special Crop Use Restrictions**

The pesticide applicator, the producer of the crop, and the seed conditioner must be aware that use of this product according to this labeling is deemed a nonfeed/nonfood use. If the applicator of this pesticide is not the producer, the applicator must provide a copy of this labeling to the producer of the crop. Producers of this crop who use this product, or cause the product to be used on a field they operate, shall provide a copy of this pesticide label to the seed conditioner.

Consequently, no portion of this carrot seed crop, including but not limited to green chop, hay, pellets, meal, whole seed, cracked seed, roots, bulbs, foliage and seed screenings, may be used or distributed for food or feed purposes.

Processed carrot seed from a field treated with this product must bear a specific tag or conspicuous container labeling, or if shipped in bulk, on the shipment invoice or bill of lading, with the following statement: "Not for human consumption or animal feed." All seed screenings from seed processing shall be disposed of in such a manner that the screenings cannot be distributed or used for human food or animal feed purposes.

The seed conditioner shall keep records of screening disposal for three years from the date of disposal and shall furnish the records immediately upon request. Conditioner disposal records shall consist of documentation of on-farm disposal, disposal at a controlled dumpsite, incinerator, composter or other equivalent disposal site and shall include the lot numbers, amount of material disposed of, the grower(s), and the date of disposal.

# CORN (Field, Pop. Seed, Sweet)

Application Methods: Apply by ground, air or chemigation.

#### **Use Methods, Timings and Use Rates**

Apply **Satellite 3.3 herbicide** in conventional, minimum, or no-till as a preemergence, postemergence, or postemergence incorporated (CULTI-SPRAY) application in field corn.

Apply **Satellite 3.3 herbicide** in conventional tillage as a preemergence or postemergence application in sweet corn, seed corn, or popcorn.

# Regardless of tillage system, plant corn at least 1-1/2 inches deep and completely cover with soil.

In conventional tillage systems, plant into a seedbed that is firm and free of clods and trash. Use only where adequate tillage is practiced to provide good soil coverage of the corn seed.

In no-till systems, utilize a no-till planter that is capable of planting through crop residue. The use of no-till planters under conditions that do not allow good soil coverage of the corn seed can result in reduced crop stand or injury if **Satellite 3.3 herbicide** contacts the germinating corn seed. Check equipment to ensure good seed coverage.

**Satellite 3.3 herbicide** alone or in tank mix combination treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application. If

cultivation is necessary because of soil crusting or weed germination, use shallow tillage and make certain corn seeds are below the tilled area.

**Additional Weeds Controlled:** In addition to the weeds listed in **Table 1, Satellite 3.3 herbicide** will control the following weeds in corn with CULTI-SPRAY application: wild proso millet and shattercane.

**Preemergence -** Apply after planting but before weeds and crop emerge.

**Postemergence** - Apply postemergence until field corn is 30 inches tall (20 to 24 inches tall for pop, seed and sweet corn) or in the V8 growth stage, whichever is more restrictive. If the corn canopy prevents applications from reaching the soil, use drop nozzles and apply as a directed spray.

CULTI-SPRAY - Apply **Satellite 3.3 herbicide** alone or with atrazine when field corn is at least 4 inches tall until last cultivation (layby). **Satellite 3.3 herbicide** plus atrazine must be applied before the field corn reaches 12 inches in height.

**DO NOT exceed 1.2 lbs ai per acre of atrazine, as specified on the atrazine label.** Under situations of low rainfall or soil moisture when deep germinating weeds such as shattercane or field sandbur are anticipated, mechanical incorporation will provide best results. If cultivation is needed after application and incorporation of **Satellite 3.3 herbicide**, the depth of cut should be no deeper than the depth of cut used to incorporate.

# **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation systems. Follow all directions, special instructions and restrictions in the section covering **Chemigation** in **Spraying Instructions**.

# **Use Rates Preemergence or Postemergence Applications**

	Organic Matter			
Soil Texture	<1.5% (pts/A)	1.5 to 3.0% (pts/A)	>3.0% (pts/A)	
Coarse	1.8 to 2.4	2.4 to 3.6	3.6	
Medium	2.4 to 3.6	3.6	3.6 to 4.8	
Fine	2.4 to 3.6	3.6 to 4.8	3.6 to 4.8	

**Use Rates CULTI-SPRAY Applications - Field Corn ONLY** 

Soil Texture	Southern States <sup>1</sup> (pts/A)	Northern States <sup>1</sup> (pts/A)	
Coarse	1.2 to 1.8	1.8 to 2.4	
Medium	1.8 to 2.4	2.4 to 3.6	
Fine	1.8 to 3.6	2.4 to 3.6	
<sup>1</sup> See <b>USE AREA</b> for map of specific states.			

Livestock may graze or be fed forage from treated corn after 21 days following application.

#### Restrictions

- DO NOT apply in reduced, minimum or no-till sweet corn, seed corn or popcorn.
- DO NOT apply in no-till in California.
- DO NOT apply preplant incorporated.
- **DO NOT** apply postemergence in liquid fertilizer.
- DO NOT exceed one application per crop season at the highest rate per acre for any given soil type and application method.

# COTTON

**Application Methods:** Apply by ground, air, or chemigation in conventional, minimum, stale seedbed, or no-till as a preplant surface, preplant incorporated, preemergence, or layby application in cotton.

# **Use Methods, Timings and Use Rates**

Preplant surface, preemergence, and layby treatments are most effective in controlling weeds when adequate rainfall or overhead irrigation is received within 7 days after application. A shallow cultivation is best if soil crusting or soil compaction occurs. If weeds begin to germinate or adequate moisture is not received within 7 days after application, use shallow tillage (rotary hoe or light harrow) and make sure cotton seeds are below tilled area. The use of a postemergence herbicide treatment may be required to control weed escapes at planting or following cotton emergence.

**Additional Weeds Suppressed:** In addition to the weeds listed in **Table 1**, **Satellite 3.3 herbicide** will suppress Russian thistle in the state of Arizona.

**Preplant Surface -** Apply **Satellite 3.3 herbicide** up to 15 days prior to planting. Apply **Satellite 3.3 herbicide** tank mixes and sequential programs as specified under the tank mix section.

**Preplant Incorporated -** Apply **Satellite 3.3 herbicide** up to 60 days prior to planting and incorporate within 7 days of application. Apply **Satellite 3.3 herbicide** tank mixes and sequential programs as specified under the tank mix section.

**Preemergence -** Apply **Satellite 3.3 herbicide** at planting or up to 2 days after planting. Apply to a seedbed that is firm and free of clods. Apply **Satellite 3.3 herbicide** tank mixes and sequential programs as specified under the tank mix section.

**Preplant Incorporated followed by Preemergence -** Apply **Satellite 3.3 herbicide** up to 60 days prior to planting and incorporate within 7 days of application. Apply overlay application of **Satellite 3.3 herbicide** at planting or up to 2 days after planting. Total amount of **Satellite 3.3 herbicide** applied per acre cannot exceed the highest labeled rate for a given soil type. Preplant incorporated and preemergence applications of **Satellite 3.3 herbicide** may be applied with the labeled tank mix herbicide(s).

Layby Application (at last cultivation) - Apply Satellite 3.3 herbicide directly to the soil between rows as a directed spray following the last normal cultivation (layby). Layby applications can be applied in cotton previously treated with Satellite 3.3 herbicide or any herbicide(s) registered for use in cotton. Consult the labels of those herbicides for suggested treatments, rates to be used, and precautions or restrictions for use in cotton, and for follow-crop restrictions. The total amount of Satellite 3.3 herbicide applied per acre per season cannot exceed the highest labeled rate for a given soil type.

**DO NOT** apply as a broadcast spray over the top of the cotton or **SERIOUS CROP INJURY CAN RESULT. AVOID CONTACT OF THE SPRAY** to the non-woody portion of cotton stems and to cotton foliage or **SERIOUS CROP INJURY CAN RESULT**. To reduce the potential for crop injury caused by herbicide contact with cotton foliage and stems, use protective shields when conditions favoring spray drift occur.

Glyphosate-containing products may be applied with Satellite 3.3 herbicide at layby in cotton that has the Roundup Ready® or Glyphosate-tolerant gene. DO NOT apply glyphosate-containing products at layby on non-Roundup Ready or non-glyphosate tolerant cotton. DO NOT apply Satellite 3.3 herbicide and glyphosate tank mix as a broadcast spray over the top of cotton or CROP INJURY MAY RESULT.

# **Chemigation Applications**

Apply **Satellite 3.3EC herbicide** through sprinkler irrigation systems. Follow all special instructions and restrictions in the section covering **Chemigation** in **Spraying Instructions**.

**Fall Application –** Apply **Satellite 3.3 herbicide** for weed control in cotton in the fall after October 15 (up to 140 days prior to planting cotton) in Arizona, California, Louisiana, New Mexico, Mississippi, Oklahoma and Texas. Apply **Satellite 3.3 herbicide** at the broadcast rate of 2.4 pints per acre on coarse or medium soils and 3.6 pints per acre on fine soils.

#### **Use Rates**

Soil Texture	Conventional or Minimal Tillage (pts/A)	No-Till <sup>2</sup> (pts/A)		
Coarse	1.2 to 2.4 <sup>1</sup>	1.8 to 2.4		
Medium	1.8 to 2.4	2.4 to 3.6		
Fine	2.4 to 3.6	3.6 to 4.8		
100 NOT exceed 4.9 nto/A on correct systymed calls in California				

<sup>1</sup>DO NOT exceed 1.8 pts/A on coarse-textured soils in California.

<sup>2</sup>Not recommended for soils with more than 3% organic matter.

Preharvest Interval (PHI): 60 days.

#### Restrictions

- DO NOT apply Satellite 3.3 herbicide in no-till in California.
- DO NOT feed forage or graze livestock in treated cotton fields.
- DO NOT exceed the highest seasonal rate per acre for any given soil type.

# **EDIBLE BEANS**

Dry, Lima, Snap, Chickpeas (Garbanzo Beans), Southern Peas (Cowpeas), and Sweet Lupines

Application Methods: Apply by ground or air.

# **Use Methods, Timings and Use Rates**

# Satellite 3.3 herbicide may be applied:

- (fall) preplant surface or preplant incorporated in dry beans, lima beans, snap beans, and Southern peas (cow-peas)
- (fall) preplant surface or preplant incorporate or (spring) preplant surface in chickpeas (garbanzo beans)
- (fall) preplant surface or preplant incorporated or preemergence in sweet lupines.

**Preplant Incorporated -** Apply up to 60 days prior to planting and incorporate within 7 days of application.

**Preemergence -** Apply only to sweet lupines at planting or up to 2 days after planting. Apply to a seedbed that is firm and free of clods.

Use Rates Preplant Incorporated and Preemergence

	Soil Texture Southern States¹ (pts/A)	Northern	States <sup>1</sup>
Soil Texture		< 3% Organic (pts	
Coarse	1.8	2.4	2.4
Medium	2.4	3.0	3.6
Fine	3.6	3.6	3.6
<sup>1</sup> See <b>USE AREA</b> for map of specific states.			

**Fall Applications -** North Dakota, South Dakota, Minnesota, Oregon, Washington, Montana, Idaho, and Wyoming only fall preplant surface and preplant incorporated applications may be made. Rainfall or irrigation is required for incorporation and activation. Unpredictable weed control can be expected since

factors such as length of time between application and planting as well as uncontrollable weather factors will determine herbicide activity and longevity.

Apply **Satellite 3.3 herbicide** and incorporate (rainfall, irrigation or mechanically) in late fall prior to planting edible beans [chickpeas (garbanzo beans)], dry beans (including navy, great northern, red kidney, black turtle, cranberry, and small white type), lima beans, snap beans, Southern peas (cowpeas), and sweet lupines the following spring. Apply **Satellite 3.3 herbicide** in the late fall when soil temperatures are 45° F or below but before the ground freezes.

**DO NOT** apply when the air temperature is below 45° F.

# Use Rates Preplant Surface and Preplant Incorporated (Fall Application<sup>1</sup>)

Soil Texture	Broadcast Rate < 3% Organic Matter (pts/A)	Broadcast Rate > 3% Organic Matter (pts/A)
Coarse	1.2 to 2.4	2.4
Medium	1.8 to 3.0	3.0 to 3.6
Fine	2.4 to 3.6	3.6
<sup>1</sup> For use in North Dakota, South Dakota, Minnesota, Oregon, Washington, Montana, Idaho, and Wyoming only.		

#### Restrictions

- **DO NOT** feed lupine hay and forage or graze livestock in treated lupine fields.
- DO NOT apply Satellite 3.3 herbicide more than once per cropping season.
- **DO NOT** apply through any type of irrigation system.

#### **FORAGE LEGUMES**

Application Methods: Apply by ground or air.

**Satellite 3.3 herbicide** may be used in forage legumes used as a cover crop in federal set-aside or conservation reserve program areas.

Some stand reduction of the legume cover crop may occur with this use. Consult local county extension service or the local ASC committee for recommended cover crops.

If loss of cover crop occurs due to adverse weather conditions, any crop registered for **Satellite 3.3 herbicide** preplant incorporated use can be replanted the same year into **Satellite 3.3 herbicide**-treated soil without adverse effects. If replanting is necessary, **DO NOT** rework the soil deeper than the treated zone. **DO NOT** feed or graze legume cover crops established following **Satellite 3.3 herbicide** application.

The cover crop residue should ultimately be destroyed by tillage or left on the surface to retard erosion or as directed by the local ASC committee.

# Use Methods, Timings, and Use Rates

Apply **Satellite 3.3 herbicide** preplant incorporated or preemergence.

#### **Use Rates Preplant Incorporated or Preemergence**

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.2 to 1.8
Medium	1.8 to 2.4
Fine	2.4 to 3.0

#### **FALLOW**

Application Methods: Apply by ground, air, or chemigation.

# **Use Methods, Timings and Use Rates**

Apply **Satellite 3.3 herbicide** to fallow ground following crop harvest as a planned residual treatment to control labeled broadleaf and grass weeds as they germinate.

Apply as a broadcast spray at rates up to **3.6 pints per acre**. Emerged weeds will not be controlled by this treatment. To control emerged weeds, **Satellite 3.3 herbicide** must be applied with a labeled tank mix partner (i.e. glyphosate).

#### Restrictions

**DO NOT** apply more than once during a single fallow period.

**DO NOT** apply to fallow ground after July 1 if treated fields are to be planted the following spring to crops not labeled for preplant or preplant incorporated applications of **Satellite 3.3 herbicide**.

There must be at least a 4-month interval between a **Satellite 3.3 herbicide** fallow application and the rotational planting of any fall-seeded cereal crop. Otherwise, observe the specific rotational crop intervals between a fallow application of **Satellite 3.3 herbicide** and the planting of the following crop (see **Crop Rotation** in the **Restrictions and Precautions** section of this label).

# **State-specific Instructions**

In Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, and Wyoming, apply as a broadcast spray at rates up to, but not to exceed, 3.7 pints per acre.

#### **FARMSTEADS**

For control of labeled broadleaf and grass weeds as they germinate on farmstead nonagricultural areas including barnyards, lanes, driveways, machinery or implement yards, windbreaks, and nonagricultural fencerows or ditchbanks, apply as a broadcast spray at **2.4 quarts per acre** for short-term or at **4.8 quarts per acre** for long-term preemergence control.

#### FRUITING VEGETABLES CROP GROUP 8-10

African eggplant, Bush tomato, Bell pepper, Cocona, Currant tomato, Eggplant, Garden huckleberry, Goji berry, Groundcherry, Martynia, Naranjilla, Nonbell pepper, Okra, Pea eggplant, Pepino, Roselle, Scarlet eggplant, Sunberry, Tomatillo, Tomato, Tree tomato; cultivars and/or hybrids of these

**Application Methods:** Apply by ground or air.

#### **Use Methods Timings and Use Rates**

Apply Satellite 3.3 herbicide uniformly by ground or air as a broadcast preplant incorporated application or as a broadcast preplant surface application before transplanting fruiting vegetables.

Apply only by ground as a post-directed application to transplanted or established direct-seeded fruiting vegetables.

**Satellite 3.3 herbicide** may be applied as a post-directed spray on the soil at the base of the plant, beneath plants, and between rows. Avoid direct contact with foliage or stems. Be sure roots of transplants are established. Following a post-directed spray, when sufficient rainfall or irrigation does not occur to activate the herbicide, mechanically incorporate at the time of blocking and thinning or at layby.

Apply **Satellite 3.3 herbicide** before weed germination. Emerged weeds will not be controlled by this treatment.

**Application to transplanted fruiting vegetables in raised beds**. Before transplanting, apply Satellite 3.3 herbicide preplant nonincorporated in a band to the top of the pressed bed just before laying plastic. After transplanting, Satellite 3.3 herbicide may also be applied in a band to the previously untreated row

middles between the transplanted beds. Do not overlap sprays or exceed the maximum broadcast rate on a per acre basis for the given soil texture.

**Suppression of black nightshade, hairy nightshade**. Applied at 2.4 to 3.6 pts/A, **Satellite 3.3 herbicide** may aid in the control or suppression of these weeds when used as part of a comprehensive weed management program.

#### **Use Rates**

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.2 to 1.8
Medium	1.8 to 2.4
Fine	1.8 to 3.6

Avoid contact of treated soil with roots when placing transplants into furrow or hole as injury may occur.

Preharvest Interval (PHI) for tomatoes: 21 days.

Preharvest Interval (PHI) for all other fruiting vegetables: 70 days.

#### Restrictions

- DO NOT apply more than 3.6 pints of Satellite 3.3 herbicide per acre per season.
- DO NOT apply to direct-seeded fruiting vegetables.
- **DO NOT** apply postemergence over the top of or to foliage of fruiting vegetables because severe injury may occur.
- DO NOT plant lettuce within 6 months after an application of Satellite 3.3 herbicide if the rows were covered with plastic.

# **GARLIC**

**Application Methods**: Apply by ground, air, or chemigation.

# **Use Methods, Timings and Use Rates**

**Preemergence -** After planting but before crop and weeds emerge.

Postemergence - 1st to 5th true-leaf growth stage.

**Split Application -** At both preemergence and postemergence timings.

#### **Chemigation Applications**

Apply **Satellite 3.3 herbicide** through sprinkler irrigation systems. Apply between the 2nd and 9th true-leaf stage (2nd to 6th true-leaf stage in California). **DO NOT** irrigate in excess of 0.5 inch of water. Follow all special instructions and restrictions in the section covering **Chemigation** in **Spraying Instructions**.

#### **Use Rates**

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.8
Medium	2.4
Fine	3.6

Preharvest Interval (PHI): 60 days in California; 45 days in all other states.

#### Restrictions

- DO NOT exceed 3.6 pints per acre per crop (except Idaho, Oregon, and Washington).
- DO NOT feed or graze this crop.

### **GRAIN SORGHUM**

Application Methods: Apply by ground or air.

# **Use Methods, Timings and Use Rates**

May be applied as a postemergence incorporated (CULTI-SPRAY) application in grain sorghum grown in all states and as an early postemergence in grain sorghum grown in states east of the Mississippi River and in Arkansas, eastern Texas, Louisiana, and the Missouri "bootheel."

**DO NOT** apply **Satellite 3.3 herbicide** in grain sorghum preplant incorporated or preemergence as serious crop injury can result. **DO NOT** apply **Satellite 3.3 herbicide** in grain sorghum more than once per crop season.

<u>CULTI-SPRAY</u>: Apply from the 4-inch growth stage to as late as the last cultivation (layby) of grain sorghum. See specific directions for (CULTI-SPRAY) application under **Postemergence Incorporated Applications** in the **Application Timings** section of this label.

**Additional Weeds Controlled:** In addition to the weeds listed in **Table 1**, **Satellite 3.3 herbicide** as a CULTI-SPRAY application will control the following weeds in grain sorghum: wild proso millet and shattercane.

**Early Postemergence:** For use only in states east of the Mississippi River plus Arkansas, eastern Texas, Louisiana, and the "bootheel" of Missouri.

Ensure that the seedbed is firm and free of clods and trash. Use only where adequate tillage is practiced to provide good seed coverage. Plant grain sorghum at least 1-1/2 inches deep to ensure good seed coverage.

#### **Use Rates CULTI-SPRAY Application**

Soil Texture	Southern States <sup>1</sup> (pts/A)	Northern States <sup>1</sup> (pts/A)
Coarse	1.8	2.4
Medium	2.4	3.6
Fine	3.6	3.6
<sup>1</sup> See <b>USE AREA</b> for map of specific states.		

### **Use Rates Early Postemergence Application**

Soil Texture	Satellite 3.3 herbicide
Coarse	DO NOT USE
Medium, Fine	2.4 pts/A

Livestock can graze or be fed forage from **Satellite 3.3 herbicide**-treated grain sorghum fields after 21 days following application.

#### Restrictions

- DO NOT apply preplant incorporated or preemergence.
- DO NOT apply as a CULTI-SPRAY treatment in grain sorghum planted in double row beds.
- DO NOT replant grain sorghum if crop loss occurs.
- · DO NOT apply in liquid fertilizer.

# **HOPS**

### Idaho, Oregon, and Washington only

**Application Method:** Apply by ground only.

# **Use Methods, Timings and Use Rates**

Apply **Satellite 3.3 herbicide** before target weeds germinate, when hops are in the dormant or vegetative stages of growth. Make application as a broadcast or banded treatment (including postemergence-directed) using ground equipment, applying directly to the ground beneath the vines and/or in areas between rows. Apply uniformly at a broadcast rate of 1.3 to 4.8 quarts in either a single application or sequential applications with at least 30 days between applications. **Satellite 3.3 herbicide** may be applied with other herbicides registered on hops for control of emerged weeds as a sequential use program or as a tank mix.

Preharvest Interval (PHI) for hop cones is 90 days.

#### Restrictions

- Do not apply to hops by air or through any type of irrigation system.
- Do not apply over the top of vines with leaves or cones. Spray contacting hop foliage or cones may cause injury.
- Do not apply more than 4.8 quarts of **Satellite 3.3 herbicide** per acre per year to hops from any combination of applications.

# **LENTILS AND PEAS**

(English, Dry, Garden, Dwarf, Green, Pigeon, and Edible Pod)

Application Methods: Apply by ground or air.

# **Use Methods, Timings and Use Rates**

**Preplant Incorporated –** Apply 60 days prior to planting up to immediately before planting. After application, rotary hoeing and shallow cultivation/tillage can be practiced without reducing weed control. Avoid tillage that will bring untreated soil to the surface.

# **Use Rates Preplant Incorporated**

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.8
Medium	2.4
Fine	3.6

**Fall Applications -** Fall preplant surface and preplant incorporated applications may be made in North Dakota, South Dakota, Minnesota, Oregon, Washington, Montana, Idaho, and Wyoming only. Rainfall or irrigation is required for incorporation and activation. Unpredictable weed control can be expected since factors such as length of time between application and planting as well as uncontrollable weather factors will determine herbicide activity and longevity.

Apply and incorporate (via rainfall, irrigation or mechanically) in late fall prior to planting lentils or peas (English, dry, garden, dwarf, green, pigeon, and edible pod) the following spring. Apply **Satellite 3.3 herbicide** in the late fall when soil temperatures are 45° F or below but before the ground freezes.

**DO NOT** apply when the air temperature is below 45° F.

# Use Rates Preplant Surface and Preplant Incorporated (Fall Application<sup>1</sup>)

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.2 to 1.8
Medium	1.8 to 2.4
Fine	2.4 to 3.6
<sup>1</sup> For use in North Dakota, South Dakota, Minnesota, Oregon, Washington, Montana, Idaho, and Wyoming only	

Any crop registered for a preplant incorporated application of **Satellite 3.3 herbicide** can be double cropped after peas.

#### Restrictions

- DO NOT use in California.
- DO NOT apply Satellite 3.3 herbicide preemergence in peas.
- DO NOT apply Satellite 3.3 herbicide more than once per cropping season.
- **DO NOT** apply to peas, lentils, pea or lentil forage, pea silage, pea hay, or pea straw grown for livestock feed.
- **DO NOT** apply through any type of irrigation system.

#### **LOW-GROWING BERRY SUBGROUP 13-07G**

Bearberry, Bilberry, Blueberry (lowbush), Cloudberry, Cranberry, Lingonberry, Muntries, Partridgeberry, Strawberry; cultivars and/or hybrids of these

**Application Method:** Apply by ground, air, or chemigation.

Use Methods, Timings and Use Rates: Note that stunting, reduced growth, or reduction in daughter plants may occur with the use of Satellite 3.3 herbicide in strawberries and other low-growing berries in subgroup 13-07G.

Apply 1.8 to 3.6 pints per acre as a uniform broadcast spray to the soil surface at pre-transplant time or post-transplant time. In the Pacific Northwest, application must be within 7 days of transplanting of rootstock. In geographies where irrigation is used daily/frequently after transplanting, apply **Satellite 3.3 herbicide** just before the end of the watering regime to maximize weed control benefits. Extended periods of irrigation may reduce the residual control provided by this product.

**Application to row middles between the beds**. Do not apply post-transplant if new foliage from rootstock is exposed to the spray area. A second application of 1.8 to 3.6 pints per acre may be made in a band to the soil between crop rows (or between the plastic beds) 35 days before harvest, but do not concentrate the rate per acre into the treated area, and do not allow spray to contact low-growing berry plants. The second application rate is based on per unit of treated area.

**Application in fall or winter dormancy to low-growing berries**. Make a uniform application of 1.8 to 3.5 pints of **Satellite 3.3 herbicide** as a broadcast spray to the soil surface before the onset of new seasonal growth from berry crowns. Do not apply if new seasonal growth (leaves) has emerged or is exposed.

**Application to perennial low-growing berries after renovation**. Make a uniform application of 1.8 to 3.5 pints per acre of **Satellite 3.3 herbicide** as a broadcast spray to the soil surface after renovation (mowing or other defoliation operation) when no foliage is exposed but before the onset of new seasonal growth from berry crowns. Do not apply if new seasonal growth (leaves) has emerged or is exposed.

#### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Spraying Instructions** section of the product label. Do not allow treated irrigation water to contact low-growing berry plants.

#### **Use Rates**

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.8
Medium	2.4 to 3.0
Fine	3.0 to 3.6

Preharvest Interval (PHI): 35 days.

# Restrictions

- **DO NOT** apply more than 3.6 pints of **Satellite 3.3 herbicide** per acre per application.
- **DO NOT** apply more than 7.1 pints per acre per season.
- DO NOT feed forage or graze livestock in treated fields.
- **DO NOT** plant lettuce within 6 months after a **Satellite 3.3 herbicide** application if the strawberry beds were covered with plastic.

#### **MELONS**

#### Cantaloupe, Citron melon, Muskmelon, Watermelon

**Application Methods:** Apply only by ground.

# **Use Methods, Timings and Use Rates**

Apply **Satellite 3.3 Herbicide** sequentially in melon production. Make the initial application of up to **2.4 pints per acre** as a shielded application to row middles (either before melon transplanting or before a seeded crop has emerged) or between rows covered with plastic mulch (prior to holes being punched in plastic for melon planting). Make a second shielded application at up to **2.4 pints per acre** to row middles or between plastic mulch prior to melon vine running. The interval between the sequential applications must be at least 21 days. Avoid spray contact with melon foliage or running vines because crop injury could occur.

Preharvest Interval (PHI): 35 days.

#### Restrictions

- DO NOT apply more than 2.4 pints per acre in a single application or more than 4.8 pints per acre per season
- **DO NOT** feed forage or graze livestock in treated fields.
- [Alternate Wording: Not for use in California.]

#### MINT

# **Peppermint and Spearmint**

Application Methods: Apply by ground or air.

# **Use Methods, Timings and Use Rates**

Make a single broadcast preemergence application of **Satellite 3.3 Herbicide** to dormant established mint before weed germination at 1.8 pints to 4.8 pints per acre, depending on soil texture (see following chart).. After a **Satellite 3.3 Herbicide** application, some temporary crop injury may be observed early in the growing season as mint breaks dormancy and begins to grow.

**Satellite 3.3 Herbicide** will not cause crop injury when applied according to the label under normal growing conditions. Non-uniform application may result in injury to crops, poor stands, or soil residues; conversely, uneven application may reduce weed control. Diseases, cold weather, excessive moisture, deep planting, low or high pH, salinity, or drought may weaken seedlings and plants and make them more susceptible to herbicidal damage.

#### **Use Rates**

Soil Texture	Broadcast Rate
Coarse	1.8 to 2.4 pts/A
Medium	2.4 to 4.8 pts/A
Fine	2.4 to 4.8 pts/A

Preharvest Interval (PHI): 90 days.

#### Restrictions

- **DO NOT** apply more than 4.8 pints per acre per season.
- DO NOT apply to baby mint in the first year of growth and establishment.
- DO NOT allow livestock to graze on treated spent hay or feed treated spent hay to livestock.
- DO NOT apply this product on mint through any type of irrigation system.

#### **Precautions**

- **DO NOT** apply to mint that has broken dormancy or crop injury may result. Application to mint that is near dormancy break can result in crop injury. Risk of crop injury increases the closer application is to mint dormancy break.
- **DO NOT** apply to mint stands that have been weakened by age, disease, cold weather, excessive moisture, or other factors that reduce crop vigor. Mint growing under stress is more susceptible to herbicidal damage.

#### **GRAPES**

**Application Methods:** Apply by ground, chemigation, or flood, flooded basin, and gravity flow irrigation systems.

#### **Use Methods, Timings and Use Rates**

Apply either in a single application or sequentially with an interval of 30 days or more. Apply Satellite 3.3 herbicide between 2.4 and 7.3 quarts per acre depending on the grower's weed control program, level of weed infestation, and desired residual control(see chart below) per application, not exceeding a total of 7.3 quarts/A per year. Apply any time after fall harvest, during winter dormancy and in the spring.

Short-term control	2.4 quarts
Long-term control	4.8 to 7.3 quarts

Ground Applications (Bearing). Apply surface-incorporated or surface preemergence.

Apply as a broadcast or banded treatment using ground equipment before weed germination. Apply the spray directly to the ground beneath the grape vines and/or in areas between rows. Do not apply over the top of grapes with leaves, buds, or fruit. Contact with leaves, shoots, or buds by the spray mixture may cause injury.

**Ground Applications (Nonbearing).** Apply for preplant incorporated, preplant surface, surface incorporated, or preemergence weed control in nonbearing vineyards. **Satellite 3.3 herbicide** may be used before or after transplanting.

**Preplant Surface.** Prior to transplanting, apply uniformly with ground equipment. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

**Preplant Incorporated.** Apply **Satellite 3.3 herbicide** uniformly before transplanting but before weeds germinate. Incorporate to a depth of 1 to 2 inches. In order to avoid mechanical injury to the crop, apply and incorporate before transplanting. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

Preemergence. Apply in a band or broadcast.

#### **Nonbearing Grape**

#### For Newly Transplanted and One-year old Grapevines:

Apply only to dormant grapevines. **DO NOT** apply if buds have started to swell. Application after buds have started to swell may result in leaf distortion. **DO NOT** apply to newly transplanted vines until ground has settled and not cracks are present.

#### **Chemigation Applications**

Satellite 3.3 herbicide may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Spraying Instructions** section of this label. Do not apply **Satellite 3.3 herbicide**-treated irrigation water over top of grapevines with leaves or buds or fruit. Contact with these plant parts by spray mixture may cause injury or result in illegal pesticide residues on fruit.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems – Satellite 3.3 herbicide may be applied through these types of systems. Follow all directions, special instructions, and restrictions about these systems in the Spraying Instructions section of the product label.

Preharvest Interval (PHI): 90 days.

#### Restrictions

- DO NOT apply more than 7.3 quarts of Satellite 3.3 herbicide per acre per year.
- DO NOT apply by air.
- DO NOT feed forage or graze livestock in treated vineyards.
- **DO NOT** apply over the top of grapevines with leaves, buds or fruit. .

#### **CITRUS FRUIT CROP GROUP 10-10**

Australian desert lime, Australian finger lime, Australian round lime, Brown River finger lime, Calamondin, Citron, Citrus hyrbrids, Grapefruit, Japanese summer grapefruit, Kumquat, Lemon, Lime, Mediterranean mandarin, Mount White lime, New Guinea wild lime, Orange (sour, sweet), Pummelo, Russell River lime, Satsuma mandarin, Sweet lime, Tachibana orange, Tahiti lime, Tangelo, Tangerine (mandarin), Tangor, Trifoliate orange, Uniq fruit; cultivars and/or hybrids of these

**Application Methods:** Apply by ground, chemigation, or flood, flooded basin, and gravity flow irrigation systems.

#### **Use Methods, Timings and Use Rates**

Apply either in a single application or sequentially with an interval of 30 days or more. Apply Satellite 3.3 herbicide between 2.4 and 7.3 quarts per acre depending on the grower's weed control program, level of weed infestation, and desired residual control (see chart below) per application, not exceeding a total of 7.3 quarts/A per year.

Short-term control	2.4 quarts
Long-term control	4.8 to 7.3 quarts

**Ground Applications (Bearing).** Apply surface-incorporated or surface preemergence.

Apply **Satellite 3.3 herbicide** as a broadcast or banded treatment using ground equipment before weed germination. Apply the spray directly to the ground beneath the trees and/or in areas between rows. Do not apply over the top of trees with leaves, buds, or fruit because this may cause injury.

**Ground Applications (Nonbearing).** Apply for preplant incorporated, preplant surface, surface incorporated, or preemergence weed control in nonbearing citrus tree crops. **Satellite 3.3 herbicide** may be used before or after transplanting the nonbearing crops.

**Preplant Surface.** Prior to transplanting, apply uniformly with ground equipment. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

**Preplant Incorporated.** Apply **Satellite 3.3 herbicide** uniformly before transplanting but before weeds germinate. Incorporate to a depth of 1 to 2 inches. In order to avoid mechanical injury to the crop, apply and incorporate before transplanting. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

Preemergence. Apply in a band or broadcast.

#### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the Spraying Instructions section of the product label. Do not apply **Satellite 3.3 herbicide**-treated irrigation water over top of trees with leaves or buds or fruit. Contact with these plant parts by spray mixture may cause injury.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems – Satellite 3.3 herbicide may be applied through these types of systems. Follow all directions, special instructions, and restrictions about these systems in the **Spraying Instructions** section of the product label.

Preharvest Interval (PHI): 1 day.

#### Restrictions

- **DO NOT** apply more than 7.3 quarts of **Satellite 3.3 herbicide** per acre per year in citrus trees.
- DO NOT apply by air.
- DO NOT feed forage or graze livestock in treated groves or orchards.
- **DO NOT** apply to newly seeded nursery stock.

#### **POME FRUIT CROP GROUP 11-10**

Apple, Azarole, Crabapple, Loquat, Mayhaw, Medlar, Pear, Pear (Asian), Quince (including Chinese and Japanese), Tejocote; cultivars and/or hybrids of these

**Application Methods:** Apply by ground, chemigation, or flood, flooded basin, and gravity flow irrigation systems.

#### **Use Methods, Timings and Use Rates**

Apply either in a single application or sequentially with an interval of 30 days or more. Apply Satellite 3.3 herbicide between 2.4 to 4.8 quarts per acre depending on the grower's weed control program, level of weed infestation, and desired use strategy (see chart below) per application, not exceeding a total of 4.8 quarts/A per year in pome fruit trees.

Short-term control	2.4 quarts
Long-term control	4.8 quarts

**Ground Applications (Bearing).** Apply surface-incorporated or surface preemergence.

Apply **Satellite 3.3 herbicide** as a broadcast or banded treatment using ground equipment before weed germination. Apply the spray directly to the ground beneath the trees and/or in areas between rows. Do not apply over the top of trees with leaves, buds, or fruit because this may cause injury.

**Ground Applications (Nonbearing).** Apply for preplant incorporated, preplant surface, surface incorporated, or preemergence weed control in nonbearing pome fruit tree crops. **Satellite 3.3 herbicide** may be used before or after transplanting the nonbearing crops.

**Preplant Surface.** Prior to transplanting, apply uniformly with ground equipment. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

**Preplant Incorporated.** Apply **Satellite 3.3 herbicide** uniformly before transplanting but before weeds germinate. Incorporate to a depth of 1 to 2 inches. In order to avoid mechanical injury to the crop, apply

and incorporate before transplanting. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

Preemergence. Apply in a band or broadcast.

#### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the **Spraying Instructions** section of the product label. Do not apply **Satellite 3.3 herbicide**-treated irrigation water over top of trees with leaves or buds or fruit. Contact with these plant parts by spray mixture may cause injury.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems – Satellite 3.3 herbicide may be applied through these types of systems. Follow all directions, special instructions, and restrictions about these systems in the **Spraying Instructions** section of the product label.

Preharvest Interval (PHI): 60 days.

#### Restrictions

- **DO NOT** apply more than 4.8 quarts of **Satellite 3.3 herbicide** per acre per year in pome fruit trees.
- DO NOT apply by air.
- **DO NOT** feed forage or graze livestock in treated groves or orchards.
- DO NOT apply to newly seeded nursery stock.

#### STONE FRUIT CROP GROUP 12-12

Apricot (including Japanese), Capulin, Cherry (black, Nanking, sweet, tart), Jujube (Chinese), Nectarine, peach, Plum (including American, beach, Canada, cherry, Chickasaw, Damson, Japanese, Klamath, prune), Plumcot, Sloe; cultivars and/or hybrids of these

**Application Methods:** Apply by ground, chemigation, or flood, flooded basin, and gravity flow irrigation systems.

### **Use Methods, Timings and Use Rates**

Apply either in a single application or sequentially with an interval of 30 days or more. Apply Satellite 3.3 herbicide at between 2.4 to 4.8 quarts per acre depending on the grower's weed control program, level of weed infestation, and desired use strategy (see chart below) per application, not exceeding a total of 4.8 quarts/A per year in stone fruit trees.

Short-term control	2.4 quarts
Long-term control	4.8 quarts

**Ground Applications (Bearing).** Apply surface-incorporated or surface preemergence.

Apply **Satellite 3.3 herbicide** as a broadcast or banded treatment using ground equipment before weed germination. Apply the spray directly to the ground beneath the trees and/or in areas between rows. Do not apply over the top of trees with leaves, buds, or fruit because this may cause injury.

**Ground Applications (Nonbearing).** Apply for preplant incorporated, preplant surface, surface incorporated, or preemergence weed control in nonbearing stone fruit tree crops. **Satellite 3.3 herbicide** may be used before or after transplanting the nonbearing crops.

**Preplant Surface.** Prior to transplanting, apply uniformly with ground equipment. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

**Preplant Incorporated.** Apply **Satellite 3.3 herbicide** uniformly before transplanting but before weeds germinate. Incorporate to a depth of 1 to 2 inches. In order to avoid mechanical injury to the crop, apply and incorporate before transplanting. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

Preemergence, Apply in a band or broadcast.

#### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the Spraying Instructions section of the product label. Do not apply **Satellite 3.3 herbicide**-treated irrigation water over top of trees with leaves or buds or fruit. Contact with these plant parts by spray mixture may cause injury.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems – Satellite 3.3 herbicide may be applied through these types of systems. Follow all directions, special instructions, and restrictions about these systems in the **Spraying Instructions** section of the product label.

Preharvest Interval (PHI): 60 days.

#### Restrictions

- **DO NOT** apply more than 4.8 quarts of Satellite 3.3 herbicide per acre per year in pome fruit trees
- **DO NOT** apply by air.
- **DO NOT** feed forage or graze livestock in treated groves or orchards.
- DO NOT apply to newly seeded nursery stock.

#### OTHER FRUIT TREES

Pomegranate, Juneberry

**Application Methods:** Apply by ground, chemigation, or flood, flooded basin, and gravity flow irrigation systems.

#### **Use Methods, Timings and Use Rates**

Apply either in a single application or sequentially with an interval of 30 days or more. Apply **Satellite 3.3 herbicide** at between 2.4 to 4.8 quarts per acre depending on the grower's weed control program, level of weed infestation, and desired use strategy (see chart below) per application, not exceeding a total of 4.8 quarts/A per year in pomegranate and Juneberry fruit trees.

Short-term control	2.4 quarts
Long-term control	4.8 quarts

**Ground Applications (Bearing).** Apply surface-incorporated or surface preemergence.

Apply **Satellite 3.3 herbicide** as a broadcast or banded treatment using ground equipment before weed germination. Apply the spray directly to the ground beneath the trees and/or in areas between rows. Do not apply over the top of trees with leaves, buds, or fruit because this may cause injury.

**Ground Applications (Nonbearing).** Apply for preplant incorporated, preplant surface, surface incorporated, or preemergence weed control in these nonbearing fruit tree crops. **Satellite 3.3 herbicide** may be used before or after transplanting the nonbearing crops.

**Preplant Surface.** Prior to transplanting, apply uniformly with ground equipment. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

**Preplant Incorporated.** Apply **Satellite 3.3 herbicide** uniformly before transplanting but before weeds germinate. Incorporate to a depth of 1 to 2 inches. In order to avoid mechanical injury to the crop, apply and incorporate before transplanting. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

**Preemergence**, Apply in a band or broadcast.

### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the Spraying Instructions section of

the product label. Do not apply **Satellite 3.3 herbicide**-treated irrigation water over top of trees with leaves or buds or fruit. Contact with these plant parts by spray mixture may cause injury.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems – Satellite 3.3 herbicide may be applied through these types of systems. Follow all directions, special instructions, and restrictions about these systems in the **Spraying Instructions** section of the product label.

Preharvest Interval (PHI): 60 days.

#### Restrictions

- **DO NOT** apply more than 4.8 quarts of Satellite 3.3 herbicide per acre per year in pomegranate and Juneberry fruit trees.
- DO NOT apply by air.
- **DO NOT** feed forage or graze livestock in treated groves or orchards.
- DO NOT apply to newly seeded nursery stock.

#### TREE NUT CROP GROUP

Almond, beech nut, Brazil nut, butternut, cashew, chestnut, chinquapin, filbert (hazelnut), hickory nut, macadamia nut, pecan, pistachio, walnut

**Application Methods:** Apply by ground, chemigation, or flood, flooded basin, and gravity flow irrigation systems.

#### Use Methods, Timings and Use Rates

Apply either in a single application or sequentially with an interval of 30 days or more. Apply **Satellite 3.3 herbicide** between 2.4 and 7.3 quarts per acre depending on the grower's weed control program, level of weed infestation, and desired residual control (see chart below) per application, not exceeding a total of 7.3 quarts/A per year.

Short-term control	2.4 quarts
Long-term control	4.8 to 7.3 quarts

Ground Applications (Bearing). Apply surface-incorporated or surface preemergence.

Apply **Satellite 3.3 herbicide** as a broadcast or banded treatment using ground equipment before weed germination. Apply the spray directly to the ground beneath the trees and/or in areas between rows. Do not apply over the top of trees with leaves or buds because this may cause injury.

**Ground Applications (Nonbearing).** Apply for preplant incorporated, preplant surface, surface incorporated, or preemergence weed control in nonbearing tree crops. **Satellite 3.3 herbicide** may be used before or after transplanting the nonbearing crops.

**Preplant Surface.** Prior to transplanting, apply uniformly with ground equipment. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

**Preplant Incorporated.** Apply **Satellite 3.3 herbicide** uniformly before transplanting but before weeds germinate. Incorporate to a depth of 1 to 2 inches. In order to avoid mechanical injury to the crop, apply and incorporate before transplanting. Avoid allowing roots to contact treated soil when placing transplants into the hole, as injury may occur.

Preemergence. Apply in a band or broadcast.

#### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation and drip irrigation systems. Follow all directions, special instructions, and restrictions about chemigation in the Spraying Instructions section of the product label. Do not apply **Satellite 3.3 herbicide**-treated irrigation water over top of trees with leaves or buds. Contact with these plant parts by spray mixture may cause injury.

Flood, Flooded Basin, and Gravity Flow Irrigation Systems – Satellite 3.3 herbicide may be applied through these types of systems. Follow all directions, special instructions, and restrictions about these systems in the Spraying Instructions section of the product label.

Preharvest Interval (PHI): 60 days

#### Restrictions

- **DO NOT** apply more than 7.3 quarts of **Satellite 3.3 herbicide** per acre per year in nut trees.
- **DO NOT** apply by air.
- **DO NOT** feed forage or graze livestock in treated groves or orchards.
- DO NOT apply to newly seeded nursery stock.

#### BEARING AND NONBEARING OLIVE TREES

**Application Methods:** Apply by ground, chemigation, flood, flooded basin, or gravity flow irrigation systems.

#### **Use Methods, Timings and Use Rates**

Apply **Satellite 3.3 Herbicide** in a single application or sequentially with an interval of 30 days or more. Uniformly apply **2.4 to 4.8 quarts per acre** (depending on desired length of control, see following chart). Do not exceed a total of 4.8 quarts/A per year in olive trees.

Satellite 3.3 Herbicide Use Rate per Acre

Short-term control	Long-term control
2.4 quarts	4.8 quarts

Ground Applications. Use Satellite 3.3 Herbicide as a surface incorporated or (surface) preemergence application.

Apply as a broadcast or banded treatment using ground equipment before weed germination. Direct the spray to the ground beneath the trees and/or in areas between rows. **DO NOT** apply over the top of trees with leaves, buds, or fruit. Contact with leaves, shoots, or buds by spray mixture may cause injury.

#### **Chemigation Applications**

Apply **Satellite 3.3 Herbicide** through sprinkler and drip irrigation systems. Follow all directions, special instructions and restrictions about chemigation in **Spraying Instructions** section of this label. **DO NOT** apply **Satellite 3.3 Herbicide**-treated irrigation water over the top of trees with leaves, buds, or fruit.

#### Flood, Flooded Basin, and Gravity Flow Irrigation Systems

Apply **Satellite 3.3 Herbicide** in flood, flooded basin, and gravity flow irrigation systems. Follow all directions, special instructions and restrictions about flood, flooded basin, and gravity flow irrigation systems in the **Spraying Instructions** section of this label.

Preharvest Interval (PHI): 60 days.

#### Restrictions

- **DO NOT** apply more than 4.8 quarts per acre per year in olive trees.
- **DO NOT** apply by air.
- DO NOT feed forage or graze livestock in treated groves or orchards.
- DO NOT apply to newly seeded nursery stock.

#### DRY BULB ONIONS SUBGROUP 3-07 A

Daylily (bulb), Fritillaria (bulb), Garlic (bulb), Garlic, great-headed (bulb), Garlic, serpent (bulb), Lily (bulb), Onion (bulb), Onion, Chinese (bulb), Onion, pearl, Onion, potato (bulb), Shallot (bulb); Cultivars, varieties, and/or hybrids of these

**Application methods**: Apply by ground, air or chemigation. Apply to direct-seeded and transplanted dry bulb onions and dry bulb shallots.

**Use Methods, Timings and Use Rates** 

#### **Chemigation Applications**

Apply **Satellite 3.3 herbicide** through sprinkler irrigation systems. **DO NOT** irrigate in excess of 0.5 inch of water. Follow all directions, special instructions and restrictions in the section covering **Chemigation** in **Spraying Instructions**.

### In All States Except California:

Apply **Satellite 3.3 herbicide** as a single postemergence broadcast spray when dry bulb onions have 2 to 9 true leaves.

Additional Use in Colorado, Kansas, and Nebraska: Satellite 3.3 herbicide may be applied sequentially in seeded onions. Apply first application of Satellite 3.3 herbicide at loop stage. Apply sequential application of Satellite 3.3 herbicide early postemergence (2nd to 9th true-leaf stage).

**DO NOT** exceed the maximum labeled rate for a given soil texture. **DO NOT** apply **Satellite 3.3 herbicide** at loop stage through the 9th true-leaf stage if heavy rains are expected, or severe crop injury may result.

#### Additional Use in Colorado and the High Plains of Texas:

For transplanted onions only, apply and shallow incorporate (less than 2 inches deep) **Satellite 3.3 herbicide** into preformed beds prior to transplanting.

**Additional Use in Idaho, Oregon, and Washington:** Apply **Satellite 3.3 herbicide** as a broadcast treatment when onions or shallots are between the flag leaf to 9th true-leaf stage.

**Satellite 3.3 herbicide** may be used at 3.6 to 4.8 pints per acre for dodder control on medium- and fine-textured soils.

**DO NOT** apply **Satellite 3.3 herbicide** using chemigation at the dodder control rate.

Satellite 3.3 herbicide may be applied in the fall or spring to the furrow area of land bedded in the fall in preparation for planting seed of dry bulb onions the following spring. Apply Satellite 3.3 herbicide as a banded application at rates based on appropriate soil texture. Band width should be approximately 1/2 the width of the row spacing. Keep Satellite 3.3 herbicide away from the area where onion seed will be planted. Harrow-off tops of beds following Satellite 3.3 herbicide furrow applications prior to planting onions. For selective weed control in the onion row, apply Satellite 3.3 herbicide as a banded postemergence application to flag leaf onions at the labeled rates based on soil texture. Apply Satellite 3.3 herbicide only once to the furrow area and once to the onion row as a postemergence application.

#### Additional Use in Michigan:

For mineral soils containing >10% organic matter, follow the directions for muck soils (see following).

In California: Satellite 3.3 herbicide may only be applied as a single application when dry bulb onions have 2 to 6 true leaves.

#### Mineral Soils

#### **Use Rates**

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.8
Medium	2.4
Fine	3.6

Preharvest Interval (PHI): 60 days in California; 45 days in all other states.

#### **Restrictions (Mineral Soils)**

• **DO NOT** apply more than 3.6 pints per acre per growing season.

- DO NOT feed or graze these crops.
- **DO NOT** apply preemergence through the loop stage if heavy rains are expected or severe crop injury may result. If irrigating immediately after application at the preemergence through loop stage, DO NOT irrigate in excess of 0.5 inches of water.
- **DO NOT** mechanically incorporate except as specified for use on dry bulb onions in Colorado and the Texas High Plains.

#### **Muck Soils**

#### **Use Rates**

Apply Satellite 3.3EC herbicide sequentially on muck soils as follows:

Application Timing and Growth Stage	Rate (pts/A)
Preemergence through Loop Stage	4.8
Early Postemergence (2nd to 6th true-leaf stage)	4.8
Late Postemergence (6th to 9th true-leaf stage)	4.8

Preharvest Interval (PHI): 45 days.

#### **Restrictions (Muck Soils)**

- DO NOT apply to muck soils in California.
- DO NOT feed or graze these crops.
- **DO NOT** apply more than 14.4 pints per acre per growing season on muck soils. To maximize crop safety, ensure good soil coverage during planting or transplanting and delay preemergence applications to the loop stage, if possible.
- DO NOT apply Satellite 3.3 herbicide preemergence through the loop stage if heavy rains are
  expected or severe crop injury may result. If irrigating immediately after Satellite 3.3 herbicide
  application at the preemergence through loop stage, DO NOT irrigate in excess of 0.5 inch of water.
- **DO NOT** plant sugar beets, red beets, spinach, winter wheat, or winter barley as rotational crops on muck soils for 12 months from the time of last application if more than 3.6 pints per acre of **Satellite 3.3 herbicide** is applied to the onion crop.
- If loss of onion crop occurs, DO NOT replant any crop other than onions in muck soil during the same cropping year and DO NOT work the soil deeper than 2 inches.

#### **GREEN ONION SUBGROUP 3-07B**

Chive (fresh leaves), Chive, Chinese (fresh leaves), Elegans hosta, Fritillaria (leaves), Kurrat, Lady's leek, Leek, Leek (wild), Onion (Beltsville bunching, fresh, green, macrostem, tree (tops), Welsh (tops)), Shallot (fresh leaves); cultivars and/or hybrids of these

**Application Methods:** Apply by ground, air, or chemigation.

#### Use Methods, Timings, and Rates

Apply **Satellite 3.3 herbicide** uniformly at a rate of 2.4 pints/A as a broadcast spray to the soil surface preemergence, or apply postemergence to the crop at the 2 to 3 true-leaf stage at least 30 days before harvest. If applied sequentially as both a preemergence and postemergence spray, the preemergence spray must be made 30 days before the postemergence spray.

#### **Chemigation Applications**

**Satellite 3.3 herbicide** may be applied through sprinkler irrigation systems. Apply at the 2-3 true-leaf stage at least 30 days before harvest. Do not irrigate in excess of ½ inch of water. Follow all directions, special instructions, and restrictions about chemigation in the **Spraying Instructions** section of the **Satellite 3.3 herbicide** label.

Preharvest Interval (PHI): 30 days.

Only apply preemergence to green onions grown on muck soils or on mineral soils with greater than 3% organic matter.

#### Restrictions

- **DO NOT** apply more than 2.4 pints of **Satellite 3.3 herbicide** per acre per application.
- **DO NOT** apply more than 4.8 pints product per acre per season.
- **DO NOT** feed forage or graze livestock in treated fields.

#### **PEANUTS**

Application Methods: Apply by ground, air, or chemigation.

### Use Methods, Timings and Use Rates

May be applied preplant incorporated in peanuts and preemergence to peanuts grown under overhead irrigation.

DO NOT use on peanuts in California.

**Preplant Incorporated -** Apply **Satellite 3.3 herbicide** up to 60 days prior to planting and incorporate within 7 days after applications.

**Preemergence -** Apply **Satellite 3.3 herbicide** at planting or up to 2 days after planting and before crop emergence. To prevent decreased crop pegging, adequate incorporation must be achieved by applying a minimum of 0.75 inch of overhead irrigation or rainfall within 48 hours of application.

#### **Chemigation Applications**

Apply **Satellite 3.3 herbicide** through sprinkler irrigation systems. Follow all special instructions and restrictions in the section covering **Chemigation** in **Spraying Instructions**.

#### **Use Rates**

Region	Rate (pts/A)
New Mexico, Oklahoma, and Texas	1.2 to 2.4
Other peanut growing states*	
*For heavy weed infestations, especially of Texas panicum, up to 3.6 pts/A of <b>Satellite 3.3 herbicide</b> can be used in Alabama, Georgia or Florida.	

#### PERENNIAL GRASSES GROWN FOR SEED

**Application Methods:** Apply by ground, air or chemigation.

#### **Use Methods, Timings and Use Rates**

Apply prior to target weed germination. Uniformly apply at a broadcast rate of 2.4 to 4.8 quarts per acre in a single application. As an option, apply **Satellite 3.3 herbicide** in two split applications, with 1/2 the seasonal application rate applied in the fall or winter followed by the other 1/2 the seasonal application rate applied in the spring. **DO NOT** exceed a cumulative total of 4.8 quarts per acre in any one crop season.

In both warm-season and cool-season perennial grasses, use the higher application rate where more dense infestations of targeted annual grasses, annual broadleaf, or volunteer grass seedlings are anticipated, or when a longer duration of residual weed control is desired. Excess grass straw and crop residue from the previous harvest must be evenly spread or removed by such methods as crew cutting, propane flaming, or open field burning (when local regulations allow) prior to **Satellite 3.3 herbicide** application, or reduced weed control may result.

Apply **Satellite 3.3 herbicide** in a sequential use program or as a tank mix with other registered herbicides that control emerged weeds.

**Satellite 3.3 herbicide** may cause temporary injury to perennial grass stands. Applications made in periods of cold temperatures that temporarily limit normal crop growth or in extended cold temperature periods that initiate winter dormancy in grass crops may result in crop injury. Diseases, extremely cold weather, drought, extensive frost heaving, low or high pH, or salinity may weaken stands and make them more susceptible to herbicidal damage.

Additional Weeds Controlled. Satellite 3.3 herbicide applied prior to weed germination will control annual bluegrass, volunteer fescue, and volunteer ryegrass in addition to the weeds listed in **Table 1**. Weeds Controlled.

Apply **Satellite 3.3 herbicide** in the following perennial grasses grown for seed production:

#### Warm-season perennial grasses

Apply to established (defined as planted in the fall or spring which has gone through a first cutting/mowing) warm-season perennial grasses, including Bermudagrass, switchgrass, and others. Apply to postharvest grass during the fall or during winter dormancy or after the first seed harvest/cutting. **DO NOT** apply to warm-season perennial grasses after greenup in the spring prior to the first seed harvest/cutting.

#### Cool-season perennial grasses

Apply to established (6 or more tillers per plant) cool-season perennial grasses, including Kentucky bluegrass, tall fescue, orchardgrass, perennial ryegrass, fine fescue, and others. Apply to postharvest grass during regrowth at the beginning of significant fall rains or in spring prior to germination of targeted weeds.

#### **Chemigation Applications**

Apply **Satellite 3.3 herbicide** through sprinkler irrigation systems following all directions, special instructions, and restrictions about chemigation in **Spraying Instructions** section of this label.

#### **Tank Mixes**

**Satellite 3.3 herbicide** may be tank mixed with Outlook® herbicide or with other herbicides labeled for use in perennial grasses grown for seed. It is recommended to test tank mixes on a small portion of the target crop to determine if damage is likely to occur.

Physical incompatibility, reduced weed control, or crop injury may result from mixing Satellite 3.3 herbicide with other pesticides, additives, or fertilizers.

Applications of postemergence herbicides may cause crop injury. Always perform a mixing test to check the compatibility of **Satellite 3.3 herbicide** with all potential tank mix partners. Follow all precautions and restrictions on the labels of all products applied in combination with **Satellite 3.3 herbicide**. Always follow the most restrictive label.

#### **Precautions**

- Some stunting and chlorosis of the perennial grasses may occur with postemergence applications.
- Applications made after the perennial grasses exceed 6 inches in height may result in poor weed control due to possible reduced spray coverage to the soil.
- The grass straw remaining after seed harvest of both warm-season and cool-season perennial grasses may be used as livestock bedding, and/or grazed by or fed to livestock.

#### **PreHarvest Interval (PHI):**

Harvested Item	Timing for both warm- and cool- season perennial grasses
Forage	45 days
Hay	60 days
Seed	90 days

#### Restrictions.

- **DO NOT** exceed a cumulative total of 4.8 quarts per acre in any one crop season.
- DO NOT apply if surface water is present in the field
- The grower must notify the seed processor that there is no pesticide tolerance on grass seed screenings; therefore, it cannot be used in livestock feed.

#### **POTATOES**

**Application Methods**: Apply by ground, air, or chemigation.

#### **Use Methods, Timings and Use Rates**

Apply preemergence, preemergence incorporated, or early postemergence in potatoes.

Additional Weeds Controlled: In addition to the weeds listed in Table 1, Satellite 3.3 herbicide will control stinging nettle in potatoes.

**Preemergence -** Apply **Satellite 3.3 herbicide** after planting, but before potatoes and weeds emerge, or after dragoff.

Preemergence Incorporated - Apply Satellite 3.3 herbicide and incorporate after planting but before potatoes and weeds emerge. Where dragoff is practiced, apply Satellite 3.3 herbicide and incorporate before, at, or after dragoff, but before potatoes and weeds emerge. Incorporate within 7 days of application by incorporating thoroughly and uniformly into the top 1 to 2 inches of soil. Mechanical incorporation is not required if adequate rainfall for good crop and weed emergence occurs or irrigation is received within 7 days after application. Care must be taken so that incorporation equipment does not damage seed pieces or elongating sprouts.

**Early Postemergence -** Apply **Satellite 3.3 herbicide** from crop emergence to the 6-inch stage of growth. **DO NOT** apply **Satellite 3.3 herbicide** postemergence if potatoes are under stress from cold/wet or hot/dry conditions or crop injury may occur.

#### **Chemigation Applications**

Apply **Satellite 3.3 herbicide** through sprinkler irrigation systems. Apply **Satellite 3.3 herbicide** preemergence after planting, after dragoff, or early postemergence through sprinkler irrigation systems. Follow all directions, special instructions and restrictions in the section covering **Chemigation** in **Spraying Instructions**.

#### **Use Rates**

Soil Texture	< 3% Organic (pts	: Matter > 3% /A)
Coarse	1.8	1.8
Medium	2.4	3.6
Fine	3.6	3.6

#### Restrictions

- DO NOT apply to sweet potatoes or yams.
- DO NOT apply preplant.
- DO NOT make more than one application of Satellite 3.3 herbicide per season.

#### **Precautions**

• Application of **Satellite 3.3 herbicide** on White Rose variety potatoes during or followed by cool and/or wet weather conditions may result in crop injury.

#### RICE

Apply **Satellite 3.3 herbicide** as a delayed preemergence application in drilled dry-seeded rice or as an early postemergence application in dry-seeded rice. Treatments may be applied to conventional, reduced or minimum tillage, and no-till (stale seedbed) rice. Ensure that the seedbed is firm and free of clods and prepared to allow for good seed coverage. The use of a planter under conditions that do not allow good soil coverage of the rice seed can result in reduced stand or stunting if **Satellite 3.3 herbicide** contacts germinating rice seed.

Additional Weeds Controlled: In addition to the weeds listed in Table 1, Satellite 3.3 herbicide will control the following weeds in rice: junglerice and sprangletop.

## **Use Methods, Timings and Use Rates**

**Pre-Flood**, **Preemergence** – Apply **Satellite 3.3 herbicide** for preemergence weed control as a preflood, pre-rice germination herbicide in lightly incorporated dry-seeded rice or on drilled rice.

**SEEDING DIRECTIONS:** For all rice seed incorporation methods, seed must be incorporated shallowly or no more than 1 inch below the soil surface. Seed left on the surface may be injured or killed by **Satellite 3.3 herbicide**. However, it is recommended that 15 to 20% of seed total be visible at surface in order to ensure that seed is not covered too deeply. Increase seeding rates by a percentage corresponding to the amount of seed left on the surface. Adjust seeding ratios to meet individual practices, incorporation depths and field conditions.

**EXAMPLE:** Target seeding rate is 150 lbs per acre. If approximately 15% of seed is left on soil surface, seeding rate should then be increased 22.5 lbs per acre to 177.5 lbs per acre.

Seeding depths can be affected by soil textures, tillage practices, irrigation, and methods of mechanical incorporation. Seed that is incorporated either mechanically and/or by irrigation flush must remain at a shallow depth of no more than 1 inch below the soil surface. Fields where rice seed is incorporated too deeply will experience reduced crop stands.

Following are examples of typical implements that can be used for rice seed incorporation: rice roller/ridger, ring roller, light harrow, or flat roller. Regardless of the implement or method of incorporation used, seed incorporation must be less than 1 inch below the soil surface.

After rice seed is incorporated, uniformly apply to soil surface as broadcast spray the tank mixture of **Satellite 3.3 herbicide** at 2.4 pints per acre **plus FirstChoice SafeGuard** spray adjuvant at 1.6 pints per acre. Use of **Satellite 3.3 herbicide** without tank mixing with **FirstChoice SafeGuard** spray adjuvant can result in crop injury and loss of rice stand.

After herbicide application, flush field with irrigation water with method best employed to facilitate a thorough soaking of field and a rapid drain. Tail water (runoff water) from flood irrigation that contains **Satellite 3.3 herbicide** must be re-circulated and contained in the field of initial application or used only on adjacent crops for which **Satellite 3.3 herbicide** (or other pendimethalin-based products) is registered for use.

Rice seed covered with water for longer than 8 days may result in reduced stand and weed control.

<u>Delayed Preemergence</u> – Not for this use in California. Apply **Satellite 3.3 herbicide** alone or with tank mix partner for delayed preemergence weed control in grain-drilled, dry-seeded rice. Apply **Satellite 3.3 herbicide** alone or in tank mixture to levees after the levees are pulled and planted. Exposed seeds that come in contact with **Satellite 3.3 herbicide** may be injured. Apply only when growing conditions favor vigorous rice growth. The seedbed should have adequate moisture for seed germination.

Uniformly apply the specified rate of **Satellite 3.3 herbicide** after rice planting and before rice and weed emergence (spiking). Apply after the rice seed has absorbed water and germinated and after the soil has been previously sealed over the seed by at least 1 inch of rainfall or by irrigation (flush). If the soil has not been sealed by rain or flush, apply when 80 percent of germinated seeds have a primary root (radicle) or

shoot at least 1/2-inch long. If there is insufficient moisture, flushing is recommended before **Satellite 3.3 herbicide** application to supply moisture for root (radicle) initiation and for vigorous rice and weed growth.

If applied to soil prior to these conditions or to cracked soil, stand reduction or stunting of rice may occur. Under some conditions, use of gibberellic acid-treated seed, heavy rainfall after application, or flushing after application may result in herbicide injury to rice. Rice can overcome moderate injury with appropriate cultural practices.

Due to the residual activity of **Satellite 3.3 herbicide**, this treatment may be applied if rice is too small to maintain a flood on the field for weed control. However, proper water management practices must be followed for normal rice growth and activity of **Satellite 3.3 herbicide**.

<u>Early Postemergence</u> - Apply Satellite 3.3 herbicide as a tank mix partner. Base applications on weed and crop size guidelines of the tank mix partner. **DO NOT** apply to fields with standing water. If necessary, fields may be flushed prior to treatment to produce vigorous rice and weed growth. Since soil and weeds must be completely exposed to spray coverage, no flood water should be on the field at the time of application. Cloddy soil, standing water (puddles) at the time of application, or cracks in the soil that form after application may result in reduced weed control. Because of residual activity of **Satellite 3.3** herbicide, this treatment may be applied if rice is too small to maintain a flood on the field for weed control. However, proper water management practices must be followed for normal rice growth and activity of **Satellite 3.3** herbicide.

Since the residual activity of **Satellite 3.3 herbicide** is activated by moisture, **Satellite 3.3 herbicide** is most effective in controlling emerging weeds when adequate rainfall or irrigation (flush) is received within 7 days after application.

#### **Use Rates Delayed Preemergence Applications**

Soil Texture	Rate (pts/A)
Sands, loamy sands	DO NOT USE
Sandy loams	1.8
Loams, silt loams, silts, sandy clay loams	2.4
Silty clay loams, clay loams, sandy clays, silty clays, clays	2.4

#### **Use Rates Early Postemergence Application**

Soil Texture	Rate (pts/A)
Coarse	1.8
Medium	2.4
Fine	2.4

#### Restrictions

- DO NOT apply Satellite 3.3 herbicide through any type of irrigation system.
- **DO NOT** apply in liquid fertilizer.
- DO NOT replant with gibberellic acid-treated seed.
- DO NOT reapply Satellite 3.3 herbicide alone or in a tank mixture.
- DO NOT use on water-seeded rice except as specified in other UPL NA labeling.
- DO NOT apply to rice fields if fields are used for fish production, especially catfish or crayfish farming.
- DO NOT use water containing Satellite 3.3EC herbicide residues from rice cultivation to irrigate food or feed crops that are not registered for use with Satellite 3.3 herbicide.
- DO NOT apply Satellite 3.3 herbicide and then flush for germination.
- DO NOT feed forage or graze livestock in treated fields.

#### **Precautions**

- In case of a crop failure due to weather conditions or disease following treatment with Satellite 3.3
  herbicide alone or in a tank mixture, only drilled dry-seeded rice may be immediately replanted;
  however, the grower assumes all risks and consequences associated with replanting of rice because
  there is the potential for stand reduction or stunting. A 10 percent increase in seeding rate is
  recommended. Replant seed below the herbicide layer because reduced stand or stunting may occur if
  Satellite 3.3 herbicide contacts germinating rice seed.
- **DO NOT** apply to stressed rice. Stress factors include cold or hot temperature extremes, excessive moisture or drought, problem soils, poor field drainage, or deep water after application.
- DO NOT apply early preemergence nor preplant incorporated as severe rice injury is possible.

#### BEARING AND NONBEARING SMALL FRUIT CLIMBING VINES

Amur River Grape, Gooseberry, Kiwifruit (fuzzy, hardy), Maypop, Schisandra Berry

**Application Methods:** Apply by ground, chemigation, flood, flooded basin, or gravity flow irrigation systems.

#### **Use Methods, Timings and Use Rates**

Apply **Satellite 3.3 Herbicide** either in a single application or sequentially with an interval of 30 days or more. Uniformly apply in small fruit climbing vines up to 4.8 quarts per acre depending on the grower's weed control program, level of weed infestation, and desired use strategy (see following chart).

#### Satellite 3.3 Herbicide Use Rate per Acre

Short-term control	Long-term control
3.8 quarts	4.8 quarts

Apply **Satellite 3.3 Herbicide** any time after fall harvest, during winter dormancy, and in the spring. **Ground Applications.** Use **Satellite 3.3 Herbicide** as a surface incorporated or (surface) preemergence application

Apply as a broadcast or banded treatment using ground equipment before weed germination. Apply spray directly to the ground beneath small fruit climbing vines and/or in areas between rows. **DO NOT** apply over the top of small fruit climbing vines with leaves, buds, or fruit. Contact with leaves, buds, or fruit by the spray mixture may cause injury.

#### **Chemigation Applications**

Apply **Satellite 3.3 Herbicide** through sprinkler irrigation and drip irrigation systems. Follow all recommendations, special instructions and restrictions about chemigation in the **Spraying Instructions** section of this label. **DO NOT** apply **Satellite 3.3 Herbicide**-treated irrigation water over the top of small fruit climbing vines with leaves, buds, or fruit. Contact with leaves, buds, or fruit by the spray mixture may cause injury.

#### Flood, Flooded Basin, and Gravity Flow Irrigation Systems

Apply **Satellite 3.3 Herbicide** in flood, flooded basin, and gravity flow irrigation systems. Follow all special instructions and restrictions about flood, flooded basin, and gravity flow irrigation systems in the **Spraying Instructions** section of this label.

Preharvest Interval (PHI): 60 days.

#### Restrictions

- DO NOT apply over the top of small fruit climbing vines with leaves, buds, or fruit.
- **DO NOT** apply by air.
- **DO NOT** apply more than 4.8 quarts per acre per year (a single growing season).

- DO NOT feed forage or graze livestock in treated vines.
- DO NOT apply when impregnated onto dry bulk fertilizer in small fruit climbing vines.

#### **SOYBEANS**

Application Methods: Apply by ground or air.

**Additional Weeds Controlled:** In addition to the weeds listed in **Table 1**, **Satellite 3.3 herbicide** will control or reduce competition from the following weeds in soybeans: itchgrass and red rice. For specific rates for red rice and itchgrass management, see table at end of this section.

#### **Use Methods, Timings and Use Rates**

**Fall Applied - Satellite 3.3 herbicide** may be surface applied or incorporated in the fall, after fall harvest and prior to ground freeze in states north of I-80 and the entire states of lowa, Illinois, Indiana, Kansas, Kentucky, Missouri, Nebraska, Ohio, Oklahoma, and Texas. Fall applications **Satellite 3.3 herbicide** will not provide season-long weed control.

**Preplant Surface** - Apply up to 15 days prior to planting. **Satellite 3.3 herbicide** may be applied up to 45 days prior to planting when used in a tank mix or applied sequentially with **Extreme**<sup>®</sup>, **Raptor**<sup>®</sup>, or **Pursuit**<sup>®</sup> **herbicides**. Apply **Satellite 3.3 herbicide** tank mixes and sequential programs as specified under the tank mix section.

**Preplant Incorporated -** Apply **Satellite 3.3 herbicide** up to 60 days prior to planting and incorporate within 7 days after application.

**Preemergence -** Apply **Satellite 3.3 herbicide** at planting or up to 2 days after planting. Apply to a firm seedbed free of clods. **DO NOT** make applications preemergence north of Interstate 80, except in the states of Indiana, Michigan and Ohio, or as specified in UPL NA supplemental labeling.

#### Use Rates Fall Surface, Fall Incorporated, Preplant Surface, or Preplant Incorporated

Soil Texture	< 3% Organic (pts	
Coarse	1.8	2.4
Medium	3.01	3.6
Fine <sup>2</sup>	3.6	3.6

<sup>&</sup>lt;sup>1</sup>DO NOT exceed 2.1 pts for southern states; see USE AREA for map of specific states.

#### **Use Rates Preemergence Applications**

Soil Texture	< 3% Organic (pts	: Matter > 3% /A)
Coarse	1.8	1.8
Medium	2.4	2.4
Fine	2.4	3.0

Preplant Incorporated Applications for Red Rice Control and Itchgrass Suppression

<sup>&</sup>lt;sup>2</sup>For heavy clay soils, apply **Satellite 3.3 herbicide** at the broadcast rate of 3.6 pints per acre.

Soil Texture	Up to 3% Organic Matter¹ (pts/A)
Coarse	3.6
Medium	3.6
Fine 4.8	
¹This use is not recommended for soils with more than 3% organic matter.	

Livestock can graze or be fed forage from treated soybean fields.

PreHarvest Interval (PHI): 85 days.

#### Restrictions

- DO NOT use Satellite 3.3 herbicide in soybeans in California.
- **DO NOT** exceed one application per crop season at the highest rate per acre for any given soil type and application method.

#### **Precautions**

• DO NOT APPLY POSTEMERGENCE or serious crop injury can result.

#### **SUGARCANE**

Application Methods: Apply by ground or air.

## Use Methods, Timings and Use Rates

Apply preemergence through layby to plant or ratoon sugarcane. Applications may be made band or broadcast. Although there may be adequate crop tolerance for postemergence applications at layby, the spray must be directed under the sugarcane canopy in order to obtain effective weed control.

**Satellite 3.3 herbicide** must be thoroughly and uniformly incorporated into the soil with either (a) mechanical incorporation equipment as outlined below, or (b) with rainfall or irrigation, if rainfall or irrigation is adequate for good crop and weed emergence and received within 7 days after application. If rainfall or irrigation is not obtained, mechanically incorporated the product.

#### **Mechanical Incorporation**

Apply **Satellite 3.3 herbicide** to loosened beds and incorporate into the top 1 to 2 inches of soil within 7 days after application.

#### **Use Rates**

Use Area	Broadcast Rate <sup>1</sup> (pts/A)
All states, except Hawaii	4.8 to 7.2
Muck soils (Florida only)	4.8 to 9.7
Hawaii	4.8 to 9.7

<sup>&</sup>lt;sup>1</sup>Use the high rate if: clay soils; no mechanical incorporation is planned; heavy weed populations are anticipated; itchgrass infestation is anticipated; shaving is planned.

Preharvest Interval (PHI): 90 days.

#### Restrictions

• DO NOT exceed 14.4 pints of Satellite 3.3 herbicide per acre in one growing season.

- DO NOT use less than 11 gallons of water as a carrier when applying Satellite 3.3 herbicide for weed control.
- **DO NOT** apply through any type of irrigation system.
- DO NOT graze treated fields or feed treated forage or fodder to livestock.

#### **Precautions**

- Ratoon sugarcane must be lightly shaved in early spring to remove the old stubble before incorporation
  over the line of sugarcane is possible. Carefully adjust equipment to incorporate without causing
  excessive damage to emerging shoots.
- DO NOT make aerial applications at close-in because complete and uniform coverage cannot be
  obtained.

#### **OILSEEDS SUBGROUP 20B**

Calendula, Castor oil plant, Chinese tallowtree, Euphorbia, Evening primrose, Jojoba, niger seed, Rose hip, Safflower, Stokes aster, Sunflower, Tallowwood, Tea oil plant, Vernonia, Cultivars, varieties, and/or hybrids of these

Application Methods: Apply by ground or air.

Plant oilseeds 20B 1.5 inches to 2 inches deep and completely cover with soil.

**Use Methods, Timings and Use Rates** 

Preplant Incorporated (Spring) - In all states, apply within 60 days of planting and incorporate.

**Preplant Incorporated (Fall applications only in North Dakota, South Dakota and Minnesota)** - Apply **Satellite 3.3 herbicide** and immediately incorporate in late fall prior to planting oilseeds 20B the following spring. Apply **Satellite 3.3 herbicide** in the late fall when soil temperatures are 45° F or below but before the ground freezes. **DO NOT** apply when the air temperature is below 45° F.

Prior to oilseeds 20B planting in the spring, make at least one shallow additional incorporation to fields treated with **Satellite 3.3 herbicide**. Make the spring incorporation at an angle to the last tillage operation.

Preemergence – Apply Satellite 3.3 herbicide at planting or up to 2 days after planting. Preemergence applications of Satellite 3.3 herbicide to oilseeds 20B may increase the likelihood of crop injury, especially when grown in stress situations, such as compacted soils. Decreased herbicide performance compared to preplant incorporated applications may also result from a preemergence application. If dry conditions with limited precipitation exist or unseasonably cool temperatures following planting are forecast, apply Satellite 3.3 herbicide before planting and mechanically incorporate with tillage. Satellite 3.3 herbicide may be applied preemergence in conventional tillage oilseeds 20B, except in the state of California.

**No-till Oilseeds 20B – Satellite 3.3 herbicide** may be applied at 3.6 pts/A up to 30 days before planting (preplant) to immediately after planting (preemergence). **Not for this use in California**.

**Use Rates** 

## Preplant Incorporated (Spring) or Preemergence (Conventional Tillage)

		Norther	n States
Soil Texture	Southern States* (pts/A)	< 3% Organio (pts	c Matter > 3% s/A)
Coarse	1.8	2.4	2.4
Medium	2.4	3.0	3.6
Fine	3.6	3.6	3.6
*See USE AREA for map of specific states			

## **Preplant Incorporated (Fall) Application**

For use in Minnesota, North Dakota, and South Dakota only

Soil Texture	< 3% Organic Matter > 3% (pts/A)	
Coarse	3.0	3.0
Medium	3.6	4.2
Fine	4.2	4.2

## Restrictions (all tillage types)

- DO NOT apply Satellite 3.3 herbicide postemergence.
- DO NOT feed forage or graze livestock in treated oilseeds 20B fields.

#### **TOBACCO**

**Application Methods**: Apply only by ground.

## **Use Methods Timings and Use Rates**

Apply preplant incorporated or as a layby application in transplanted tobacco.

**Preplant Incorporated -** Apply **Satellite 3.3 herbicide** with ground sprayer up to 60 days prior to transplanting tobacco and incorporate within 7 days after application.

Applied according to directions and under normal growing conditions, **Satellite 3.3 herbicide** will not harm transplanted tobacco. Under stress conditions for plant growth such as cold/wet or hot/dry weather, **Satellite 3.3 herbicide** can produce a temporary retardation of tobacco development.

**Layby -** Apply as a directed spray following the last normal cultivation (layby), usually 4 to 6 weeks after transplanting tobacco. Apply in a 16- to 24-inch band between the crop rows. Contact of the spray solution with tobacco plants may cause damage to the plant.

## Use Rates Preplant Incorporated Application

Use Area	Soil Texture	Rate (pts/A)
Florida	Coarse	2.4
Georgia Maryland	Medium sandy clay loams, loams	2.4
North Carolina South Carolina Virginia	silt loams, silts	3.0
	Fine	3.0
	Coarse	2.4
Other states	Medium	3.6
	Fine	3.6

#### **Layby Application**

Soil Texture	Broadcast Rate (pts/A)
Coarse	1.8
Medium	2.4
Fine	2.4

#### Restrictions

• DO NOT apply as a broadcast spray as contact may cause malformed tobacco leaves.

## **VEGETABLE SOYBEAN (EDAMAME)**

Application Methods. Apply only by ground.

Use Methods, Timings and Use Rates

Apply Satellite 3.3 herbicide to edamame grown under conventional, minimum; or no-till systems.

**Preplant Surface.** Apply within 15 days of planting. **Satellite 3.3 herbicide** may be applied within 45 days of planting when used in a tank mix or applied sequentially with postemergence-applied herbicides registered for use in edamame.

**Preplant Incorporated**. Apply within 60 days of planting and incorporate.

**Preemergence**. Apply at planting or up to 2 days after planting. Apply to a firm seedbed, free of clods. **DO NOT** make applications of **Satellite 3.3 herbicide** preemergence north of Interstate 80, except in states of Indiana, Michigan and Ohio.

#### **Use Rates**

#### **Preplant Surface or Preplant Incorporated**

Soil Texture	<3% Organic Matter >3%		
Coarse	1.8 pts/A	2.4 pts/A	
Medium	3.0* pts/A	3.6 pts/A	
Fine**	3.6 pts/A	3.6 pts/A	
*DO NOT exceed 2.5 pts for Southern states; see USE AREA for map of specific states.  **For heavy clay soils, apply Satellite 3.3 herbicide at the broadcast rate of 3.8 pints per acre.			

#### **Preemergence Applications**

Soil Texture	<3% Organic Matter >3%		
Coarse	1.5 pts/A	1.5 pts/A	
Medium	2.0 pts/A	2.0 pts/A	
Fine	2.0 pts/A	2.5 pts/A	

Livestock can graze or be fed forage from treated vegetable soybean (edamame) fields.

Preharvest Interval (PHI): 85 days.

#### Restrictions

- **DO NOT** exceed one application per crop season at the highest rate per acre for any given soil type and application method.
- · Not for this use in California.

#### **WHEAT**

Application Methods: Apply by ground or air.

#### Use Methods, Timings and Use Rates

Apply **Satellite 3.3 herbicide** postemergence for weed control in fall-seeded, winter-seeded, or spring-seeded wheat or triticale.

Apply to a seedbed which is firm and free of clods and trash. The seedbed **MUST** be prepared to ensure good seed coverage by the soil and seed to soil contact. Use high quality seed. When applications are intended to be made postemergence, plant seed at least 1/2-inch to 1-inch deep to avoid crop injury.

Uniformly apply as a postemergence treatment from the 1st-leaf stage of wheat or triticale until before the flag leaf is visible/emerged for weed control. Apply prior to weed germination. Emerged weeds will not be controlled by this treatment.

For control of established weeds, **Satellite 3.3 herbicide** may be tank mixed with any postemergence herbicide registered for use in wheat or triticale. **Satellite 3.3 herbicide** will provide residual control of the weeds listed in this label. Always perform a mixing test to check the compatibility of **Satellite 3.3 herbicide** with all potential tank mix partners.

#### **Use Rates**

Soil Texture	Southern States <sup>1</sup>	Northern States <sup>1</sup>			
Coarse	1.8 to 2.4 pts/A	1.8 pts/A			
Medium	1.8 to 3.6 pts/A	1.8 to 3.0 pts/A			
Fine 2.4 to 3.6 pts/A 2.4 to 3.6 pts/A					
<sup>1</sup> See <b>USE AREA</b> for map of specific states.					

In wheat stubble, **Satellite 3.3 herbicide** may be applied in the fall, spring or early summer during the fallow period following wheat harvest as a planned residual treatment to control labeled broadleaf and grass weeds. **Satellite 3.3 herbicide** must be applied with an adequate tank mix partner (i.e. glyphosate) to provide control of emerged weeds. There must be at least a 4-month interval between a **Satellite 3.3 herbicide** fallow application and the rotational planting of any fall-seeded cereal crop. Apply up to, but **DO NOT** exceed, 3.6 pints/acre of **Satellite 3.3 herbicide** in any fallow application. **DO NOT** make more than one application of **Satellite 3.3 herbicide** during a single fallow period prior to rotational planting of any fall-seeded cereal crops. Rotational crop restrictions must be adhered to when planting a rotational crop following a fallow application of **Satellite 3.3 herbicide**.

#### Preharvest Intervals (PHI):

Wheat or triticale grain or straw	60 days
Wheat or triticale <b>hay</b>	28 days
Wheat or triticale forage	11 days

#### Restrictions

• **DO NOT** apply more than 3.6 pints per acre per season.

**NOTE:** If loss of grain crop occurs, any crop registered for **Satellite 3.3 herbicide** preplant incorporated use may be replanted the same year without adverse effects. **DO NOT** replant wheat or triticale.

#### **Tank Mixes with Other Products**

If this product is used in combination with any other product except as specifically recommended in writing by UPL NA, then UPL NA shall have no liability for any loss, damage, or injury arising out of its use in any such combination not so specifically recommended. To the extent consistent with applicable law, if used in combination recommended by UPL NA, the liability of UPL NA shall in no manner extend to any

damage, loss, or injury not directly caused by the inclusion of the UPL NA product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the product.

#### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE: DO NOT STORE BELOW 40° F.** Extended storage at temperatures below 40° F can result in the formation of crystals on the bottom of the container. If crystallization does occur, store the container on its side at room temperature (70° F) and rock occasionally until crystals redissolve.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law.

If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### **CONTAINER HANDLING**

**Nonrefillable Container. Do not reuse or refill this container.** Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. 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.

**Triple rinse containers too large to shake (capacity > 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

**Triple rinse as follows:** 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% 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.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Do not reuse the container for any other purpose. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. Do not transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

## IMPORTANT INFORMATION READ BEFORE USING PRODUCT

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE**: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of UPL NA Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of UPL NA Inc. and Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold UPL NA Inc. and Seller harmless for any claims relating to such factors.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, UPL NA INC. AND SELLER MAKE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ON THIS LABEL.

To the extent consistent with applicable law, UPL NA Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product and THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UPL NA INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UPL NA INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.

UPL NA Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by the duly authorized representative of UPL NA Inc.

Satellite and UPL logo are trademarks of UPL Corporation Limited or its related companies.

Extreme, Pursuit, and Raptor are registered trademarks of BASF.

Butyrac is a registered trademark of Albaugh, Inc.

**Gramoxone** is a registered trademark of a Syngenta Group Company.

Roundup Ready is a registered trademark of Monsanto Company.

Sublabel B: Non-Agricultural Uses Complete Directions for Use

pendimethalin GROUP 3 HERBICIDE

# Satellite® 3.3 herbicide

## For Preemergent Weed Control in Turfgrasses, Landscape or Grounds Maintenance, Noncropland Areas and Ornamental Production

**Active Ingredient:** 

pendimethalin: N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine 37.9%

Other Ingredients: 62.1%

(1 gallon contains 3.3 pounds of pendimethalin)

EPA Reg. No. 70506-318

**EPA Est. No.** 

# KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCIÓN

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

FIRST AID			
If swallowed	<ul> <li>Immediately call a poison control center or doctor.</li> <li>DO NOT induce vomiting unless told to do so by a poison control center or doctor.</li> <li>DO NOT give any liquid to person.</li> <li>DO NOT give anything by mouth to an unconscious person.</li> </ul>		
If in eyes	<ul> <li>Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		
If on skin	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>		

### **NOTE TO PHYSICIAN**

Contains petroleum distillates. Vomiting may cause aspiration pneumonia. Because of increased risk of chemical pneumonia or pulmonary edema caused by aspiration of the hydrocarbon solvent, vomiting should be induced only under professional supervision.

#### **HOT LINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the rocky Mountain Poison and Drug Center at 1-866-424-6671 for emergency medical treatment information.

In case of emergency: spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

#### **Net Contents:**

UPL NA Inc.

630 Freedom Business Center, Suite 402

<sup>\*</sup>Contains aromatic naphtha

King of Prussia, PA 19406 • 1-800-438-6071

[optional wording for use on commercial labeling; location on printed labels may vary:

"See inside for additional Precautionary Statements and complete Directions for Use";

"See attached booklet for additional Precautionary Statements and complete Directions For Use";

## **Precautionary Statements**

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION.

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## **Personal Protective Equipment (PPE)**

## Applicators and other handlers must wear:

- · Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, or viton ≥ 14 mils
- Shoes plus socks

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

## **Engineering Controls:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the 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 thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### PHYSICAL AND CHEMICAL HAZARDS

Do not mix with or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

#### **ENVIRONMENTAL HAZARDS**

This product is toxic to fish. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters or rinsate.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated site. Protect the forage and habitat of non-target organisms by following label directions intended to minimize spray drift.

<sup>&</sup>quot;See containers inside for additional Precautionary Statements and complete Directions For Use".]

## **Endangered Species Protection**

If endangered plant species occur in proximity to the application site, the following mitigation measures are required:

- If applied by ground, leave an untreated buffer zone of 200 feet. The product must be applied using a low boom (20 inches above the ground) and ASAE fine to medium/coarse nozzles.
- If applied by air, leave an untreated buffer zone of 170 feet. Must use straight-stream nozzles (D-6 or larger); wind can be no more than 8 mph; and release height must be 15 feet or less.

To determine whether your county has an endangered species, consult the website <a href="http://www.epa.gov/espp/usa-map.htm">http://www.epa.gov/espp/usa-map.htm</a>.

Endangered Species Bulletins may also be obtained from extension offices or state pesticide agencies. If the bulletin is not available for your specific area, check with the appropriate local state agency to determine if known populations of endangered species occur in the area to be treated.

## **Directions For Use**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This label must be in the possession of the user at the time of pesticide application.

Observe all precautions and restrictions in this label and the labels of products used in combination with **Satellite 3.3 herbicide**. The use of **Satellite 3.3 herbicide** not consistent with this label can result in injury to crops, animals, or persons. Keep containers closed to avoid spills and contamination.

**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 protection.

**DO NOT** apply this product through any type of irrigation system.

**DO NOT** apply **Satellite 3.3 herbicide** in greenhouses, shadehouses, or other enclosed structures.

Not for use in commercial seed production.

DO NOT enter or allow other people (or pets) to enter the treated area until sprays have dried.

UPL NA intends that this product may not be used for manufacturing, processing, or preparing custom blends for application to turf and ornamentals.

#### 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 **24 hours**. **Exception**: if the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- Chemical-resistant gloves made of barrier laminate, or viton ≥ 14 mils
- · Shoes plus socks

#### **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 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.

Do not enter treated areas without protective clothing until sprays have dried.

### **Product Information**

APPLICATION USE SITES – for preemergence control of grasses and certain broadleaf weed species as they germinate.

Turfgrass sites (golf course, lawns, sod farms and other turf areas) and landscape ornamental maintenance areas. Such sites include: grounds or lawns around residential and commercial establishments, multifamily dwellings, military and other institutions, parks, airports, roadsides, schools, picnic grounds, athletic fields, houses of worship, cemeteries, golf courses, prairie grass areas and sod farms.

**Grounds maintenance** in areas including parking lots, driveways and roadsides, alleyways, bike and jogging paths, vacant lots, buildings, stone gardens and gravel yards, markers and fence lines, and mulch beds. It may be used under asphalt or concrete treatments as part of a site preparation program.

**Noncropland areas** including railroad, utility, highway, and pipeline rights-of-way, highway guardrails, delineators, and sign posts, bridge abutments and approaches, utility substations, petroleum tank farms, pumping installations, storage areas, fence rows, windbreaks and shelterbelts, paved or gravel surfaces, and established wildflower plantings where weed control is desired.

Bulb plantings, non-bearing fruit and nut tree nurseries, conifer and hardwood seedling nurseries and tree plantations for site preparation and maintenance. Applications can be made on plant species listed on this label including trees, shrubs, groundcovers, perennials, bulbs, ornamental grasses and bedding plants.

In and around field, liner and container ornamental production.

#### **Weed Resistance Management**

For resistance management, SATELLITE 3.3EC is a Group 3 herbicide. Any weed population may contain or develop plants naturally resistant to SATELLITE 3.3EC and other Group 3 herbicides. Weed species with acquired resistance to Group 3 may eventually dominate the weed population if Group ## herbicides are used repeatedly in the same area. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of SATELLITE 3.3EC or other Group 3 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds. Whenever possible incorporate multiple weed control practices such as mechanical cultivation, biological management practices, and crop rotation.
- Use tank mixtures with herbicides from a different group if such use is permitted; where
  information on resistance in target weed species is available, use the less resistance-prone
  partner at a rate that will control the target weed(s) equally as well as the more resistance-prone
  partner. Consult your local extension service or pest control advisor if you are unsure as to which
  active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and
  uses historical information related to herbicide use, and that considers mechanical control
  methods, cultural (e.g. timing to favor the desirable plants and not the weeds), biological (weedcompetitive varieties) and other management practices.
- Fields should be scouted before application to identify the weed species present and their growth stage to determine if the intended application will be effective. Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with

controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method. Prevent movement of resistant weed seeds to other areas by cleaning equipment.

- If a weed pest population continues to progress after treatment with this product, discontinue use of this product and switch to another management strategy or herbicide with a different mode of action (MOA), if available. Treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes. To the extent possible do not allow weed escapes to produce seeds, roots, or tubers.
- Contact your sales representative, pest control advisors, or local extension specialist for additional pesticide resistance management and/or integrated weed management recommendations for specific types of plants and weed biotypes. Report any incidence of nonperformance of this product against a particular weed species to your retailer or UPL NA at 1-800-438-6071.

#### **APPLICATION INSTRUCTIONS**

**Satellite 3.3 herbicide** will not control established weeds. Therefore, areas to be treated should be free of established weeds at the time of treatment, or use **Satellite 3.3 herbicide** together with herbicides registered for postemergence use in managed turf sites, landscape ornamentals and in other noncropland areas. Consult the labels of those herbicides for suggested treatments, rates to be used and precautions or restrictions for use in these areas.

The efficacy of **Satellite 3.3 herbicide** will be best if the application is followed by one-half inch of rainfall or its equivalent in sprinkler irrigation. If **Satellite 3.3 herbicide** is not activated by rainfall or irrigation within 30 days, weed control may be erratic.

When applied according to label directions and under normal growing conditions, **Satellite 3.3 herbicide** or **Satellite 3.3 herbicide** tank-mix combinations will not cause crop injury. Over-application can cause crop stand loss, crop injury, or soil residues. Uneven application can decrease weed control or cause crop injury.

Seedling diseases, cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought can weaken seedlings and plants, and increase the possibility of plant damage from **Satellite 3.3** herbicide.

Note: Satellite 3.3 herbicide may cause temporary discoloration of sprayed surfaces. Rinse immediately to avoid staining. Spray colorants or dyes can be added to alter the color of the spray solution to match the treated surface.

#### **MIXING INSTRUCTIONS**

**Satellite 3.3 herbicide** may be applied in a tank mix or a sequential application with other herbicides registered for use in a given crop. Refer to the companion product label for weeds controlled in addition to **Satellite 3.3 herbicide** alone.

When using tank mixtures or sequential applications with **Satellite 3.3 herbicide**, always read the companion product label(s) to determine the specific use rates by soil types, weed species, and weed or crop growth stage. In addition, follow all precautions and restrictions including state and local use restrictions that may apply to specific products. Always follow the most restrictive label.

#### **GROUND DRIVEN SPRAYERS:**

- 1. Fill tank 1/2 to 3/4 full with clean water.
- 2. Add Satellite 3.3 herbicide to the partially filled tank while agitating and then fill the remainder of the tank with water.
- **3. Maintain continuous agitation while adding Satellite 3.3 herbicide until spraying is completed**. If the spray mixture is allowed to settle for any period of time, agitate thoroughly to resuspend the mixture before spraying is resumed.
- **4**. If **Satellite 3.3 herbicide** is used in tank mixtures with other registered herbicides, follow directions on the labels of those products which recommend tank mixing.

#### **BACKPACK SPRAYER:**

- 1. Begin with a clean spray tank, filling the spray tank 1/2 full with clean water.
- 2. Add the required amount of **Satellite 3.3 herbicide**. Cap sprayer and agitate to ensure mixing. Uncap sprayer and finish filling tank to desired level. Cap sprayer and agitate again. During application it is desirable to agitate the mixture on occasion to ensure mixing. If the spray mixture is allowed to settle for any period of time, agitate thoroughly before spraying is resumed.

#### **LIQUID FERTILIZERS:**

Before mixing, always test small quantities using a simple jar test. Add the required amount of **Satellite 3.3 herbicide** to a half filled spray tank while agitating; then add the fertilizer product. Complete filling spray tank to desired level.

#### **DRY BULK FERTILIZERS:**

**Satellite 3.3 herbicide** may be impregnated on dry bulk fertilizers. When applied as directed, herbicide plus dry bulk fertilizer mixtures provide weed control equal to that provided by the same rates of **Satellite 3.3 herbicide** applied in water.

## SPRAYING INSTRUCTIONS GROUND APPLICATIONS

Apply with properly calibrated ground equipment in sufficient water per acre to uniformly treat the area, using a low pressure sprayer (e.g. 20 to 40 psi). Suggested minimum spray volume is 40 gallons per acre. Maintain continuous agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above those listed. Do not apply when winds may cause drift.

Avoid contact of spray solution with driveways, stone, wood, or other porous surfaces. If contact occurs, rinse immediately with water to avoid staining. Do not mechanically scrub until the surface area is thoroughly rinsed. Allow treated area to dry before entering to avoid staining onto non-treated surfaces.

Efficacy of **Satellite 3.3 herbicide** is optimized if application if followed by  $\frac{1}{2}$  inch of rainfall or its equivalent in sprinkler irrigation. If **Satellite 3.3 herbicide** is not activated by rainfall or irrigation within 30 days, weed control may be erratic.

#### **AERIAL APPLICATIONS**

Apply uniformly in 5 or more gallons of water per acre. Take care to minimize drift. Do not apply during periods of gusty winds or when wind conditions favor drifting. Spray drift can cause injury to sensitive crops. To avoid overlapping and possible crop injury, use a flagman or an automatic mechanical flagging unit on the aircraft.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops:

- 1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
- 2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Observe more stringent state regulations. The applicator must be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information presented below.

## **Spray Drift**

#### Aerial Applications:

- Do not release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).

- Do not apply when wind speeds exceed 15 mph at the application site. If the wind speed is greater than 10 mph, the boom length must not exceed 65% of the wingspan for fixed wing aircraft or 75% of the rotor diameter for helicopters. Otherwise, the boom length must not exceed 75% of the wingspan for fixed wing aircraft or 90% of the rotor diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply during temperature inversions.

#### **Ground Boom Applications:**

- Applicators must only apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

### Boom-less Ground Applications:

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

#### Hand-held Technology Applications:

• Take precautions to minimize spray drift.

## **Spray Drift Advisories**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

#### IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### Controlling Droplet Size - Ground Boom

- Volume increasing the spray volume so that larger droplets are produced will reduce spray drift.
   Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle use the spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **Controlling Droplet Size – Aircraft**

Adjust Nozzles – follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

#### **BOOM HEIGHT - Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft - Higher release heights increase the potential for spray drift.

**SHIELDED SPRAYERS -** Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

**TEMPERATURE AND HUMIDITY -** When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

**TEMPERATURE INVERSIONS** - Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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 an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

**WIND -** Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUST WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

#### **SENSITIVE AREAS**

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

#### **WEEDS CONTROLLED**

The following grass and broadleaf weeds are controlled by preemergence treatments of **Satellite 3.3 herbicide** at the specified use rates:

#### GRASSES CONTROLLED

GRASSES CONTROL	-ED	
Common Name	Scientific Name	
Barnyardgrass	Echinochloa crus-galli	
Bluegrass, Annual	Poa annua	
Crabgrass	<i>Digitaria</i> spp.	
Crowfootgrass	Dactyloctenium aegyptium	
Foxtail, Giant	Setaria faberi	
Foxtail, Green	Setaria viridis	
Foxtail, Yellow	Setaria glauca	
Goosegrass	Eleusine indica	
Itchgrass	Rottboellia exaltata	
Johnsongrass (from sec	ed) Sorghum halepense	
Junglerice	Echinochloa colona	
Lovegrass (from seed)	Eragrostis spp.	
Panicum, Browntop	Panicum fasciculatum	
Panicum, Fall	Panicum dichotomiflorum	
Panicum, Texas	Panicum texanum	
Sandbur, Field	Cenchrus incertus	
Signalgrass	Brachiaria platyphylla	
Sprangletop, Mexican	Leptochloa uninervia	
Sprangletop, Red	Leptochloa filiformis	
Witchgrass	Panicum capillare	
Woolly Cupgrass	Eriochloa villosa	

#### **BROADLEAF WEEDS CONTROLLED**

Common Nama	Scientific Name	
Common Name	Scientific Name	

Burweed, Lawn Soliva pterosperma Carpetweed Mollugo verticillata Chickweed, Common Stellaria media Chickweed, Mouse-ear Cerastium vulgatum Trifolium procumbens Clover, Hop Cudweed Gnaphalium spp. Evening primrose Oenothera biennis Fiddleneck Amsinckia intermedia

Filaree Erodium spp.

Henbit Lamium amplexicaule Knotweed, prostrate Polygonum aviculare Kochia Kochia scoparia Lambsquarters Chenopodium album Pigweed Amaranthus spp. Puncturevine Tribulus terrestris Purslane Portulaca oleracea Pusley, Florida Richardia scabra Rocket, London Sisymbrium irio Shepherdspurse

Capsella

bursa-pastoris Smartweed, Pennsylvania Polygonum

pensylvanicum

Speedwell, Corn Veronica arvensis Spurge, Annual Euphorbia spp.

Spurge, Prostrate Euphorbia humistrata

Woodsorrel, Yellow Oxalis stricta

Velvetleaf (Buttonweed) Abutilon theophrasti

# TURFGRASS USES including Residential, Sod Farm, Golf Course, Commercial, Non-Residential

## **Application Rates For Preemergence Weed Control**

	Satellite 3.3 Herbicide <sup>1</sup>				
Turfgrass Species	Weeds	fl. oz. pints		Comments	
		Product per	Product per acre		
		1,000 sq. ft.			
COOL SEASON G					
Bluegrass,	Barnyardgrass		rf Uses:	Make initial application	
Kentucky	Crabgrass	1.3 to 1.8 fl oz	3.6 to 4.8 pints	before weed	
Fescue, Fine	Evening Primrose			germination in the	
Fescue, Tall	Fall Panicum Foxtail			spring.  Make a repeat	
Ryegrass, Perennial	Hop Clover			application of 2.5 to	
	Knotweed			3.6 pints/A (1.0-1.3 fl	
	Oxalis			oz/1000 sq. ft.) after 5-	
	Poa annua			8 weeks for extended	
	Prostrate Spurge			control or where heavy	
	Purslane			weed infestations are	
				expected.	
	Goosegrass		and Sod Farm es Only²:	Make initial application before weed	
		1.3 to 1.8 fl oz	3.6 to 4.8 pints	germination in the	
			nmercial and Other	spring.  Make a repeat	
		1.3 to 2.6 fl oz	I Turf Uses Only: 3.6 to 7.2 pints	application of 3.6	
		1.3 to 2.0 ii oz	3.0 to 7.2 pints	pints/Acre (1.3 fl	
				oz/1000 sq. ft.) if the	
				lower rate was used	
				initially or for extended	
				goosegrass control	
	Chickweed	AUT	rf Uses:	after 5-8 weeks.	
	Corn Speedwell	1.3 to 1.8 fl oz	3.6 to 4.8 pints	Apply in late summer or early fall before	
	Cudweed	1.0 to 1.0 ii 02	0.0 to 4.0 pints	weed germination.	
	Henbit			Apply a repeat	
	Lawn Burweed			application of 3.6 to	
	Poa annua <sup>3</sup>			4.8 pints (1.3 to 1.8 fl	
				oz/1,000 sq. ft.) after	
				5-8 weeks for	
				extended <i>Poa annua</i> control.	
Bentgrass or	Barnyardgrass	ΔΙΙ Τ	rf Uses	Make initial application	
established <i>Poa</i>	Crabgrass		is and Tees):	before weed	
annua <sup>3</sup> (1/2 inch	Evening Primrose	1.3 fl oz	3.6 pints	germination in the	
height or taller)	Fall Panicum		1	spring.	
	Foxtail			Make a repeat	
	Hop Clover			application of 2.5 to	
	Knotweed			3.6 pints/Acre (1.0-1.3	
	Poa annua Oxalis			fl oz/1000 sq. ft.) after 5-8 weeks for	
	Prostrate Spurge			extended control or	
	Purslane			where heavy weed	
				infestations are	
				expected.  Make initial application	
	Goosegrass	All Tu	All Turf Uses		
		(Non-Greens and Tees):		before weed	
		1.3 fl oz	3.6 pints	germination in the	
				spring.	

Satellite 3.3 Herbicide <sup>1</sup>					
Turfgrass Species	Weeds	fl. oz.	pints	Comments	
		Product per 1,000 sq. ft.	Product per acre		
				Apply a repeat application of 3.6 pts/Acre (1.3 fl oz/1000 sq. ft.) for extended goosegrass control after 5-8 weeks.	
	Chickweed	All Tu	rf Uses	Apply in late summer	
	Corn Speedwell	(Non-Greens and Tees):		or early fall before	
	Cudweed Henbit Lawn Burweed Poa annua	1.3 to 1.8 fl oz	3.6 to 4.8 pints	weed germination.	

Turfgrass Species	Weeds	fl. oz.	Pints	Comments
3		Product per	Product per acre	
		1,000 sq. ft.		
WARM SEASON GR	ASSES	•	•	•
Bahiagrass	Barnyardgrass	Residential	and Sod Farm	Make initial application
Bermudagrass	Crabgrass	Turf U	ses Only:	before weed
Buffalograss	Evening Primrose	1.3 to 1.8 fl oz	3.6 to 4.8 pints	germination in the
Centipedegrass	Fall Panicum	Golf Course, Cor	mmercial and Other	spring. Make a repeat
Fescue, Tall	Foxtail	Non-Residentia	al Turf Uses Only:	application of 2.5 to
Paspalum,	Hop Clover	1.3 to 2.6 fl oz	3.6 to 7.2 pints	3.6 pints/Acre (1.0-1.3
seashore	Knotweed			fl oz/1000 sq. ft.) after
St. Augustinegrass	Poa annua			5-8 weeks if
Zoysiagrass	Oxalis			necessary.
	Prostrate Spurge			
	Purslane			
	Goosegrass	All Turf Uses		Make initial application before weed
		(Non-Greens and Tees):		
		1.3 fl oz	3.6 pints	germination in the
				spring. An additional
				application of 3.6
				pt/Acre (1.3 fl oz/1000
				sq. ft.) may be made
				for extended
				goosegrass control 8
				weeks after the
				second application.
	Chickweed	All Tu	ırf Uses:	Apply in late summer
	Corn Speedwell			or early fall before
	Cudweed	1.3 to 1.8 fl oz	3.6 to 4.8 pints	weed germination.
	Henbit			Make a repeat
	Lawn Burweed			application of 3.6 to
	Poa annua			4.8 pints (1.3 to 1.8 fl
				oz/1,000 sq. ft.) 5-8
				weeks for extended
				Poa annua control.

- <sup>1</sup> Do not use more than 4.8 pints per <u>acre per application</u> on residential and sod farm turfgrass. Do not use more than 7.2 pints <u>per acre per application</u> on golf course turfgrass, commercial or other non-residential turfgrass.
- <sup>2</sup> Residential is defined as turf in any residential situation as well as home lawns, schools, parks and playgrounds.
- <sup>3</sup> **Not for use** on bentgrass or *Poa annua* greens or tees.

The efficacy of **Satellite 3.3 herbicide** is best if the application is followed by one-half inch of rainfall or its equivalent in sprinkler irrigation. If Satellite 3.3 herbicide is not activated by rainfall or irrigation within 30 days, weed control may be erratic.

To prevent establishment of weeds along the edges of treated area it may be necessary to overlap the spray three to six inches onto sidewalks or driveways, etc., to ensure effective application rates in these especially vulnerable sites. Where temporary discoloration of pavement is undesirable, <u>do not rub or scrub surface</u>, <u>but rinse area immediately using a heavy spray of water</u> to avoid staining. Allow treated turfgrass to dry before entering to avoid staining non-treated surfaces.

#### **TURFGRASS TANK MIXES**

**Satellite 3.3 herbicide** can be mixed with postemergence herbicides to control emerged weeds in non-residential turfgrasses. For annual grass control, applications can be made with DRIVE® or MSMA to control emerged weeds.

Broadleaf weeds can be controlled using Trimec, Three Way, 2-4,D and other similar products.

Before tank mixing, perform a simple jar test to insure compatibility of herbicides.

Refer to manufacturers' labels for specific use directions, restrictions, and limitations before tank mixing with **Satellite 3.3 herbicide** and follow those that are most restrictive.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### **TURFGRASS RESTRICTIONS**

- Use on well-established turfgrass with a dense and uniform stand. If turf has been thinned or damaged due to winter injury, excessive moisture, etc., allow turf to recover before application.
- On newly planted areas, do not apply until the turfgrass has filled in and has been mowed at least four times. Applications made to overseeded warm-season turfgrasses may cause thinning or injury of the overseeded species.
- Do not use on bentgrass or *Poa annua* greens and tees or injury may occur.
- Delay reseeding or winter overseeding of treated turfgrass for at least three (3) months following the last **Satellite 3.3 herbicide** application.
- Delay sprigging turfgrass for five (5) months after application.

## LANDSCAPE, ORNAMENTALS, TREE PLANTATIONS, AND OTHER NONCROP AREAS\*

**TABLE 1.** Application Rates For Preemergence Weed Control.

Length of Control	Product per Acre	Product per 1000 sq. ft.
Short Term Control (2-4 months)	2.4 Quarts per Acre	1.8 fl. oz. per 1000 sq. ft.
Long Term Control (6-8 months)	4.8 Quarts per Acre	3.6 fl. oz. per 1000 sq ft.

<sup>\*</sup>For all turfgrass weed control rates, refer to **Turfgrass Uses** section of this label.

**Satellite 3.3 herbicide** will not control established weeds. For extended weed control, repeat applications can be made.

If weeds develop prior to activation of herbicide, shallow cultivation will assist to destroy existing weeds or, where practical, remove by hand.

Not all ornamental species or cultivars of species have been tested for plant safety. Refer to the list of ornamental plant species found in this label. While **Satellite 3.3 herbicide** may be used on plant species not listed on this label, a small number of plants should be tested at the specified rate to evaluate suitability before a broad-use application is made.

Apply according to label directions and under normal growing conditions, over-application can result in crop stand loss, crop injury, or soil residues. Uneven application can decrease weed control or cause crop injury.

Seedling diseases, cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought can weaken

Avoid contact of spray solution with stone, wood, or other porous surfaces as staining may occur. Rinse surfaces immediately using a heavy spray of water to avoid staining.

#### **ORNAMENTAL TANK MIXES**

Emerged weeds in ornamentals can be controlled using tank mixes containing VANTAGE®, Roundup®, Finale®, Ornamec®, Gallery®, Princep®, and other similar products. Do not apply sprays containing Roundup or Finale over the top of ornamental plants.

Before tank mixing, perform a simple jar test to insure compatibility of herbicides.

Refer to manufacturers' labels for specific use directions, precautions, and restrictions before tank mixing with **Satellite 3.3 herbicide** and follow those that are most restrictive.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

#### **HAND-HELD SPRAY EQUIPMENT:**

Use table 1 above to determine the amount of **Satellite 3.3 herbicide** to be applied per 1000 square feet, in sufficient water for thorough coverage without runoff. Calibration of backpack or other hand-held equipment will vary with each operator. Determine the amount of water needed to treat 1000 square feet before mixing the spray solution. Follow information in **MIXING INSTRUCTIONS** section of this label.

#### LANDSCAPE AND GROUNDS MAINTENANCE

See TABLE 1 for use rates. Satellite 3.3 herbicide can be incorporated into landscape and grounds maintenance programs to provide extended preemergence control of most annual grasses and certain broadleaf weeds in areas including mulch beds, parking areas and roadsides, fencelines and borders, and around statuary or monuments. Ensure that these areas are free of emerged weeds before application. To remove emerged weeds either cultivate or tank mix Satellite 3.3 herbicide with a postemergence product labeled for such use.

#### NONCROPLAND AREAS INCLUDING TREE PLANTATIONS

See TABLE 1 for use rates. Use Satellite 3.3 herbicide for grounds maintenance in noncropland areas,in and around established tree plantations (including Christmas trees), pulpwood and fiber farms, in and around established ornamentals planted in noncropland areas including highway right-of-ways and utility substations. Satellite 3.3 herbicide may be used for hardwood and conifer regeneration on conservation reserve program (CRP) land.

**Applications at planting or to established trees:** When applying at planting, it is important that slit closure be achieved to prevent **Satellite 3.3 herbicide** from directly contacting the tree roots or being washed into the root zone via the open slit or root stunting may occur. Refer to section on **Instructions and Restrictions in Landscape and Ornamental Plantings** before making an application.

For postemergence control of weeds, use tank-mix combinations of **Satellite 3.3 herbicide** plus VANTAGE®, Roundup®, Finale®, or other labeled herbicides. Refer to approved labeling for species recommendations. Determine rates for the tank mix compounds from the product labels of both **Satellite 3.3 herbicide** and partner herbicides before use. Take care to prevent combination sprays from direct contact with desirable foliage or injury may result. **Satellite 3.3 herbicide** plus diuron or simazine combinations will broaden weed control spectrum, however, use of combinations may restrict **Satellite 3.3 herbicide** usage in sensitive areas. Refer to manufacturers' labels for specific use directions, precautions, and restrictions before use and follow those that are most restrictive.

#### **COMMERCIAL ORNAMENTAL PRODUCTION**

See Table 1 for Use Rates: Satellite 3.3 herbicide can be used in and around field, liner and container ornamental production.

#### **ORNAMENTAL BULBS**

See Table 1 for Use Rates. Satellite 3.3 herbicide may be applied for control of susceptible annual weeds in ornamental bulbs listed under the Perennial Section on the label (crocus, daffodil [narcissus], gladiolus, lilies, tulip, etc.). Apply Satellite 3.3 herbicide before, during or after bulb emergence. If weeds have already germinated add a labeled postemergence herbicide to control emerged weeds.

### **WILDFLOWERS**

See Table 1 for Use Rates. Satellite 3.3 herbicide may be applied for control of susceptible annual weeds in plantings of wildflowers listed in the Perennial section on the label. Those perennial species noted (\*Black-eyed Susan, California Poppy, Coreopsis, Oxeye Daisy, etc.) have been evaluated for plant tolerance to applications of Satellite 3.3 herbicide at 4.2 pints (2.1 quarts) per acre. Satellite 3.3 herbicide may be applied to established perennial wildflowers before emergence of weeds or wildflowers. For wildflowers being established from seed, apply no sooner than 4 weeks after wildflowers have emerged but before weed germination. If weeds have already germinated, add a labeled postemergence product to control emerged weeds. Refer to all label restrictions before making an application.

Due to the diversity of species and varieties which exist in areas where wildflowers are grown, the response to **Satellite 3.3 herbicide** may vary greatly. Test desirable species carefully to determine if area-wide applications can be made.

#### NON-BEARING FRUIT AND NUT CROPS AND VINEYARDS

**See Table 1 for Use Rates. Satellite 3.3 herbicide** may be applied for preemergence control of most annual grasses and certain broadleaf weeds on the following non-bearing crops:

Almond Citrus Olive Pistachio Apple Fig Peach Plum Apricot Grape Pear Prune

Cherry Nectarine Pecan Walnut, English

#### NON-CROPLAND WEED CONTROL

**See Table 1 for Use Rates.** Use **Satellite 3.3 herbicide** for preemergence control of most annual grasses and certain broadleaf weeds as they germinate on noncropland areas including railroad, utility, highway, and pipeline rights-of-way, highway guardrails, delineators, and sign posts, utility substations, petroleum tank farms, pumping installations, fence rows, storage areas, windbreaks and shelterbelts.

# TOTAL VEGETATION CONTROL AND VEGETATION CONTROL IN ORNAMENTAL PRODUCTION

See Table 1 for Use Rates. Satellite 3.3 herbicide may be tank mixed with ARSENAL®, SAHARA®, PLATEAU®, VANTAGE®, Roundup® PRO, Karmex®, Finale®, Oust®, diuron, glyphosate or other products to provide bare ground, or total vegetation control. Satellite 3.3 herbicide can be used to provide greater plant selectivity in areas where such action may be desired. Such sites might have roots of landscape vegetation, ornamentals, or desirable trees encroaching into the treated zone. Refer to tank mix partner labels regarding effects on desirable plants. Do not tank mix with ARSENAL, SAHARA or PLATEAU herbicides in California.

Applications may be made to existing weeds controlled by the partner herbicide. Determine rates from the product labels before use. Follow the most restrictive label instructions.

For Kochia control, use a combination of **Satellite 3.3 herbicide** with ARSENAL herbicide or diuron if control has been a problem for other herbicides.

#### ORNAMENTAL INSTRUCTIONS AND RESTRICTIONS

Plant only those desirable plant species listed on this label into soil treated the previous season with **Satellite 3.3 herbicide** or injury may occur. See Restrictions below.

Before treating a large number of plants, spray a few plants and observe for 1-2 months for plant damage before full-scale application.

Site	Application Instructions
Newly- Transplanted	Do not make over-the-top applications at time of field transplanting. Use shielded sprayer until plantings have been established for one (1) year or more in the field.
Field-Grown Nursery Stock	Direct sprays away from graphed or budded tissue on transplants at all times.
Newly- Transplanted	For container grown ornamentals, delay first application of the product to bareroot liners for two (2) weeks after transplanting.
Container-Grown Nursery Stock	Direct sprays away from graphed or budded tissue on transplants at all times.
Established	Apply as a directed or over-the-top spray.
Container, or Field-	If newly budded or graphed rootstock, make an application using a shielded sprayer.
Grown Nursery Stock	Take care to ensure there are no cracks in the soil where <b>Satellite 3.3 herbicide</b> could come into contact with the roots.
Bare Ground for Container Placement	Apply to soil then water in (including mulch, gravel, wood chips, or other permeable base), replace containerized ornamentals onto pad.
Landscape Plantings	Do not apply to newly-transplanted ornamentals until plants have been watered and soil has been thoroughly packed and settled around roots.
	Apply as a directed or over-the-top spray.
	Use the lowest labeled rate when making applications to annuals. Repeat applications can be made for extended landscape weed control.
Ornamental Bulbs	Satellite 3.3 herbicide may be applied to bulb species listed on the label.
	Apply before, during or after bulb emergence, but not during bloom.
Wildflowers	<b>Satellite 3.3 herbicide</b> may be applied in plantings of wildflowers listed on the label. Refer to specific instructions for rate and plant tolerance.
	For wildflowers being established from seed, apply at 4 weeks after wildflowers have germinated, but before weed seed germination.

#### **RESTRICTIONS - ORNAMENTALS**

Do not apply during bud swell, bud break or at time of first flush of new growth.

Do not treat plants grown for food or feed. Do not use treated plants for food or feed.

Do not apply in greenhouses, shadehouses, or other enclosed structures.

For transplants: Do not apply until transplants have been watered and soil has been thoroughly packed and settled around transplants. Take care to ensure there are no cracks in the soil where **Satellite 3.3 herbicide** could come into contact with the roots.

## **TABLE 2. ORNAMENTAL SPECIES**

**Satellite 3.3 herbicide** sprays may be used around and over the top of the established plants listed below. **Refer to Ornamental Instructions and Restrictions before application.** 

Not all varieties or strains of the plants listed have been tested. Unintentional consequences, such as crop injury may result because of certain environmental or growing conditions, manner or use of application. Therefore, before treating a large number of plants, spray a few plants and observe for plant damage prior to full scale application.

DO NOT apply **Satellite 3.3 herbicide** in greenhouses, shadehouses or other enclosed structures.

#### TREES

Common Name	Scientific Name
Alder, European Black	Alnus glutinosa
Apple	<i>Malus</i> spp.
Arborvitae, American	Thuja occidentalis

Birch, River

Arbutus spp. Ash, Red Fraxinus

pennsylvanica

Ash, White Fraxinus americana

Aspen, Bigtooth Populus

grandidentata

Aspen, Quaking Populus tremuloides

Basswood *Tilia* spp.

Birch, European Weeping *Betula pendula* 

Buckeye, Red Aesculus pavia
Cedar, White Thuja occidentalis
Chamaecyparis, Boulevard Chamaecyparis

pisifera

Betula nigra

Cherry, Black Prunus serotina
Cherry, Choke Prunus virginiana
Cherry, Kwanzan Prunus serrulata
Cherry, Nanking Prunus tomentosa
Cottonwood Populus deltoides

Crabapple Malus spp.

Crepe Myrtle Lagerstroemia indica
Cryptomeria, Japanese Cedar Cryptomeria japonica
Cypress, Bald Taxodium distichum
Cypress, Leyland Cupressocyparis

leylandii

Dogwood, Flowering
Dogwood, Korean
Cornus kousa
Cornus kousa
Cornus amomum
Cornus spp.
Elm
Ulmus japonica
Elm, Winged
Unus alata

Eucalyptus (Silver-dollar) tree Eucalyptus cinerea

Fir, Balsam
Abies balsamae
Fir, Douglas
Pseudotsuga
menziacii

menziesii

Fir, Fraser

Fir, White

Abies concolor

Franklinia

Franklinia spp.

Chlonenthus retusus

Ginkgo Ginkgo biloba

Gum, Black

Gum, Sour

Nyssa sylvatica

Nyssa sylvatica

Haw, Black Viburnum prunifolium
Hawthorn Crataegus spp.
Hemlock, Canada Tsuga canadensis
Hemlock, Eastern Tsuga canadensis

Holly, American *llex opaca* 

Honeylocust Gleditsia triacanthos
Lilac, Common Syringa vulgaris
Lilac, Japanese Tree Syringa reticulata

Linden Tilia spp.

Magnolia, Saucer Magnolia

soulangiana

Magnolia, Southern
Magnolia grandiflora
Magnolia, Star
Maidenhair Tree
Maple, Norway
Maple, Japanese
Maple, Red
Maple, Sugar
Magnolia grandiflora
Magnolia stellata
Ginkgo biloba
Acer platanoides
Acer palmatum
Acer rubrum
Acer saccharum

Nannyberry, Rusty Viburnum rufidulum

Oak, Chinquapin Quercus

muehlenbergii

Oak, Live Quercus virginiana Oak, Pin Quercus palustris Oak, Red Quercus rubra Oak, Swamp Chestnut Quercus michauxii Oak, Water Quercus nigra Oak, White Quercus alba Oak, Willow Quercus phellos Olive Olea europaea Palm, Date Phoenix spp. Palm, Fan Washingtonia spp.

Palm, Pindo Butia spp.

Palm, Washington Washingtonia spp.
Peach Prunus persica
Pear, Bradford Pyrus calleryana

'Bradford'

Pecan Carya illinoensis Pine, Austrian Pinus nigra Pine, Italian Stone Pinus pinea Pine, Loblolly Pinus taeda Pine, Monterey Pinus radiata Pine, Red Pinus resinosa Pine, Scotch Pinus sylvestris Pine, Virginia Pinus virginiana Pine, White Pinus strobus Plum, Purple Leaf Prunus cerasifera Poplar, Black Populus nigra Redcedar, Eastern Juniperus virginiana Redcedar, Western Thuja plicata

sideroxylon 'Rosea'

Redwood, Dawn Metasequoia

Red Ironbark

glyptostroboides

Sequoia, Giant Sequoiadendron

giganteum

Eucalyptus

Serviceberry Amelanchier laevis

Sourwood Oxydendrum

arboreum

Spruce, Colorado Blue Picea pungens
Spruce, Dwarf Alberta Picea glauca
'albertiana'

Spruce, Norway

Spruce, White

Sweetgum

Picea abies

Picea glauca

Liquidambar

styraciflua

Sycamore Platanus occidentalis
Trachycarpus spp.
Tulip tree Liriodendron
tulipifera

Walnut, Black
Willow, Weeping
Yellowwood

Juglans nigra
Salix babylonica
Cladrastis lutea

# **SHRUBS**

Common Name	Scientific Name	
Abelia, Glossy	Abelia grandiflora	
Alder, Witch	Fothergilla gardenii	
Aucuba, Gold	Aucuba japonica	
Azalea	Rhododendron sp.	
Bamboo, Heavenly	Nandina domestica	
Barberry	Berberis	
	gladwynensis	
Barberry, Japanese	Berberis thunbergii	
Blue Indigo Bush	Dalea gregii	
Bottlebrush, Lemon	Callistemon citrinus	
Boxwood, Common	Buxus sempervirens	
Boxwood, Japanese	Buxus microphylla	
Brittlebush	Encelia farinosa	
Buttonbush	Cephalanthus	
	occidentalis	
Camellia	Camellia japonica	
Cape Jasmine	Gardenia jasminoides	
Cassia, Feathery	Cassia artemisioides	
Cordyline	Cordyline spp.	
Correa	Correa spp.	
Cotoneaster	Cotoneaster	
	apiculatus	
Cotoneaster, Bayberry		
Cotoneaster, Rock	Cotoneaster horizontalis	
Cypress, Italian	Cupressus sempervirens	
Cypress, Leyland	Cupressocyparis leylandii	
Deutzia, Slender	Deutzia gracilis	
Dogwood, Red Twig	Cornus sericea	
Elaeagnus	Elaeagnus ebbingei	
Escallonia	Escallonia fradesii	
Euonymus	Euonymus fortunei	
Euonymus, Golden	Euonymus japonica	
Euonymus, Winged	Euonymus alata	
Firethorn	Pyracantha coccinea	

Forsythia, Border Forsythia intermedia
Fragrant Olive Osmanthus fragrans

Fuschia, California Zauschineria californica

Gardenia Gardenia jasminoides
Hawthorne, Indian Raphiolepis indica
Hibiscus Hibiscus syriacus
Holly, Chinese Ilex cornuta

Holly, Japanese Ilex crenata

Holly, Savannah

Holly, Yaupon

Honeysuckle, Bush

Hopseed Bush

Hopbush

Ilex attenuata

Ilex vomitoria

Diervilla lonicera

Dodonaea viscosa

Dodonaea viscosa

Hydrangea *Hydrangea macrophylla* 

Juniper Juniperus sp.

Juniper, Chinese Juniperus chinensis v.

pfitzer

Juniper, Shore
Juniperus conferta
Juniper, Trailing
Juniperus horizontalis
Laurel, Cherry
Prunus laurocerasus
Laurel, Mountain
Laurel, Otto Luyken
Laurel, Schipka

Juniperus conferta
Juniperus conferta
Juniperus conferta
Juniperus conferta
Frunus laurocerasus
Prunus schipkanensis

Laurel, Schipka Prunus schipkanensi
Laurustinus Viburnum tinus
Lavender, English Lavandula

angustifolia

Leucothoe Leucothoe fontanesiana

Leucothoe, Coast Leucothoe axillaris Lilac, Cut-leaf Syringa laciniata Lily-of-the-Nile Agapanthus africanus Mahonia Mahonia aquifolium Mock Orange Pittosporum tobira Myrtle, Compact Myrtus communis Myrtle, Wax Myrica cerifera Nandina Nandina domestica Oleander Nerium oleander Oregon Grape Mahonia aquifolium Osmanthus Osmanthus fragrans Palm, European Fan Chamaerops humilis Palm, Mediterranean Fan Chamaerops spp. Phlox, Prickly Leptodactylon californicum

Photinia, Fraser Photinia x Fraseri
Pieris, Japanese Pine, Mugo Plum, Natal Pines Californicum
Photinia x Fraseri
Pieris japonica
Pinus mugo
Carissa grandiflora

Plum, Natal Carissa grandiflora
Privet, California Ligustrum ovalifolium
Privet, Glossy Ligustrum lucidum

Privet, Variegated	Ligustrum sinensis
Privet, Waxleaf	Ligustrum japonicum
Pyracantha	Pyracantha coccinea
Quince, Flowering	Chaenomeles japonica
Ranger, Texas	Leucophyllum frutescens
Redroot	Ceanothus spp.
Rhododendron	Rhododendron spp.
Robira	Pittosporum tobira
Rose	Rosa spp.
Spice Plant	Illicium parviflorum
Spiraea	Spiraea vanhouttei
Spiraea, Anthony Waterer	Spiraea X bumalda
Spiraea, Japanese	Spiraea japonica
Sweet Bay	Laurus nobilis
Trumpet Bush	Tecoma stans
Verbena, Lemon	Aloysia triphylla
Viburnum	Viburnum suspensum
Vitex	Vitex spp.
Weigela	Weigela florida
Wild Lilac	Ceanothus spp.
Wisteria	Wisteria spp.
Xylosma	Xylosma congestum

Yellowbells

Yew\*

Taxus media

Yew, Japanese\*

Yew, Southern\*

Podocarpus
macrophyllus

Yucca, Adam's Needle

Yucca filamentosa

Yucca, Weeping

Yucca pendula

# **GROUND COVERS**

Common Name	Scientific Name	
Ajuga	Ajuga reptans	
Baby Sun Rose	Aptenia cordifolia	
Beach Strawberry	Fragaria chiloensis	
Capeweed	Arctotheca calendula	
Cinquefoil, Spring	Potentilla verna	
Coyotebrush, Dwarf	Baccharis pitularis	
Daisy, Trailing African	Osteospermum fruticosum	
Dymondia	Dymondia margaretae	
Gazania	Gazania splendens	
Iceplant, Large Leaf	Carpobrotus edulis	
lvy, English	Hedera helix	
Ivy, Geranium	Pelargonium peltatum	

<sup>\*</sup>do not apply **Satellite 3.3 herbicide** during spring growth or injury to terminals may occur.

Jasmine, Asiatic *Trachelospermum* 

asiaticum

Jasmine, Primrose Jasminum mesnyi

Jessamine, Carolina Gelsemium

sempervirens

Manzanita, Bearberry Arctostaphylos

uva-ursi

Miscanthus Miscanthus spp.

Mondograss Ophiopogon japonica

Morning glory Convolvulus spp.

Myoporum Myoporum

Myoporum parviflolium

Pachysandra Pachysandra

terminalis

Potentilla Potentilla fruticosa
Red Apple Aptenia cordifolia
Rosemary Rosemarinus

officinalis

Rose-Of-Sharon
Sand Strawberry
Fragaria chiloensis
Sedum
St. Johnswort, Creeping
Stonecrop
Verbena, Peruvian
Vervain
Hypericum calycinum
Hypericum calycinum
Verbena peruviana
Verbena peruviana
Verbena peruviana

Vetch, Crown Vicia sativa
Vinca Vinca minor

Wintercreeper Euonymous fortunei

## **PERENNIALS**

Common Name	Scientific Name	
Acacia	Acacia redolens	
Asparagus	Asparagus spp.	
Aster, New York	Aster novi-belgii	
Aster, Stokes	Stokesia laevis	
Astilibe (False Spirea)	Astilibe spp.	
Avens	Geum triflorum	
Baby's Breath	Gypsophila elegans	
Baby's Breath	Gypsophila paniculata	
Beard-Tongue	Penstemon spp.	
Bellflower	Campanula spp.	
Bellflower, Willow	Campanula persicifolia	
Bird of Paradise	Caesalpinia pulcherrima	
Black-eyed Susan†	Rudbeckia hirta	
Blanket Flower†	Gaillardia aristata	
Blanket Flower†	Gaillardia x grandiflora	
Bleeding Heart	Dicentra spectabilis	

Butterfly Weed Asclepias tuberosa

California Poppy Eschscholzia

california Zantedeschia

Calla Lily Zantedeschia

aethiopica

Canna, Common Garden Canna generalis

'Lucifer'

Carex Spp.
Chincherinchee Ornithogalum thyrsoides

Tuifali...... in a sun at...

Clover, Crimson† Trifolium incarnatum

Columbine Aquilegia

'McKana Giant'

Columbine Aquilegia x hybrida
Coreopsis (tickseed)† Coreopsis lanceolata

Crinum Lily
Crocus
Crocus spp.

Daffodil
Daylily
Fern, Asparagus
Fern, Boston

Crocus spp.

Crocus spp.

Hemerocallis spp.

Calliandra eriophylla

Asparagus officinalis

Nephrolepis exaltata

Fern, Hay-scented Dennstaedtia

punctilobula

Fern, Leatherleaf\* Rumohra

adiantiformis

Fortnight Lily Moraea spp.
Foxglove Digitalis purpurea
Freesia Freesia x hybrida
Gaillardia Gaillardia pulchella

Geum spp.
Gladiolus Gladiolus spp.
Heather, Dwarf Calluna vulgaris
Hosta Hosta spp.

Indian Blanket† Gaillardia pulchella Iris, Japanese Iris kaemphera

Lantana, Weeping Lantana

montevidensis

Leopards Bane Doronicum cordatum

Lily Lillium spp.
Liriope, Big Blue Liriope muscari
Liriope, Creeping Liriope spicata
Liriope, Variegated Liriope muscari
Moonbeam Coreopsis verticillata

Montbretia Crocosmia

crocosmiiflora

Mugwort, Western Artemesia

ludoviciana

Nightshade Solanum spp.
Orchid, Peacock Acidanthera bicolor
Oxeye Daisy† Chrysanthemum
leucanthemum

Palm, Areca	Chysalidocarpus lutescens
Palm, Pygmy Date	Phoenix roebelence
Palm, Washington	Washington robusta
Peony, Chinese	Paeonia lactiflora
Purple Coneflower†	Echinacea purpurea
Purple Gay-feather	Liatris pycnostachys
Purple Loosestrife	Lythrum virgatum
Rodgersia	Rodgersia henricie
Rosemary	Rosmarinus
	officinalis
Sedge	Carex spp.
Shasta Daisy†	Chrysanthemum x superbum
Statice	Limonium latifolia
Statice, German	Goniolimon tartaricum
Sweet Flag	Acorus calamus
Tickseed†	Coreopsis lanceolata
Texas Bluebonnet	Lupinus texenis
Tulip	Tulipa spp.
Wonder Flower	Ornithogalum thyrsoides
Yarrow†	Achillea millefolium
Zephyr Lily	Zephyranthes spp.

<sup>\*</sup>Applications of Satellite 3.3 herbicide to immature ferns (during periods of new growth of fronds) may result in some injury.

†These plants have shown tolerance to Satellite 3.3 herbicide applications of 4.2 pints (2.1 quarts) in wildflower plantings established from seed.

# **ORNAMENTAL GRASSES**

Common Name	Scientific Name	
Beach Grass	Ammophila breviligulata	
Fescue, Blue	Festuca glauca	
Fescue, Sheep	Festuca ovina	
Fountain Grass	Pennisetum setaceum	
Pampas Grass	Cortaderia selloana	
Reed Canary Grass	Phalaris arundinacea	
Reed, Giant	Arundo spp.	
Ribbon Grass	Phalaris arundinacea	
Tufted Hair Grass	Deschampsia caespitosa	

# **BEDDING PLANTS**

<b>Common Name</b>	Scientific Name	
Ageratum	Ageratum	
	houstonianum	
Alyssum*	Alyssum saxatile	

Begonia\*

Anemone, Poppy-flowered Anemone coronaria
Artemesia Artemesia spp.
Balloonflower Platycodon
grandiflorum

Begonia spp.
Brassica olereacea

Cabbage, Ornamental Brassica olereacea
Caladium spp.
Cast-Iron Plant Aspidistra elatior
China Aster\* Callistephus chinensis

Crocosmia, Montebretia Crocosmia x

crocosmiiflora

Dahlia\* Dahlia spp.

Dianthus Dianthus barbatus

Dusty Miller Senecio cineraria

Gayfeather Liatris spp.

Gazania, Treasure Flower Gazania rigens

Gazania, Trailing Gazania rigens

leucolaena

Gloxinia Gloxinia simningia
Kale, Ornamental Brassica napus
Marigold, African Tagetes erecta
Moss Rose\* Portulaca grandiflora
Mum, Garden Chrysanthemum spp.

Periwinkle\* Vinca major

Periwinkle, Rose Catharanthus roseus

Petunia\* Petunia spp. Plumosa Cockscomb Celosia cristata Portulaca\* Portulaca grandiflora Salvia\* Salvia splendens Snapdragon Antirrhinum majus Statice\* Limonium spp. Sweet William Dianthus barbatus Vinca\* Vinca major

**Satellite 3.3 herbicide** may be used on plant species not listed on this label. Determine the suitability for such uses by treating a small number of such plants at the specified rate. Evaluate treated plants 1-2 months following treatment for possible injury.

<sup>\*</sup> Do not apply **Satellite 3.3 herbicide** sooner than four weeks after transplanting for these annuals. Use the lower labeled rate.

#### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE: DO NOT STORE BELOW 40° F.** Extended storage at temperatures below 40° F can result in the formation of crystals on the bottom of the container. If crystallization does occur, store the container on its side at room temperature (70° F) and rock occasionally until crystals redissolve.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law.

If these wastes cannot be disposed of by use according to label directions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### CONTAINER HANDLING

**Nonrefillable Container. Do not reuse or refill this container.** Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. 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.

**Triple rinse containers too large to shake (capacity > 5 gallons) as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

**Triple rinse as follows:** 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% 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.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Do not reuse the container for any other purpose. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. Do not transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

# IMPORTANT INFORMATION READ BEFORE USING PRODUCT

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE**: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of UPL NA Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of UPL NA Inc. and Seller. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold UPL NA Inc. and Seller harmless for any claims relating to such factors.

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