

Palouse™

BROMOXNYL GROUP 6 HERBICIDE

For the control of certain broadleaf weeds in Corn (Field and Pop)*, Sorghum (Grain and Forage)*, Wheat, Barley, Oats, Rye and Triticale, Seeding Alfalfa, Flax*, Garlic, Onions (Dry Bulb), Mint, Grasses Grown for Seed and Sod Production, Conservation Reserve Program (CRP) Areas, Non-Residential Turfgrass, and Non-Cropland/Industrial Sites.

*Not registered for use in California.

ACTIVE INGREDIENT:

Octanoic acid ester of bromoxynil* (3, 5-dibromo-4-hydroxybenzotrile) 33.52%

OTHER INGREDIENTS: 66.48%

Total: 100.00%

Contains petroleum distillates.

*Bromoxynil octanoate equivalent to 23.02% of bromoxynil or not less than 2.0 pounds of bromoxynil per gallon.

EPA Reg. No. 66222-296

EPA Est. No. 37429-GA-001^{PT};
37429-GA-002^{BO}; 37429-GA-002^{BV}

Letter(s) in lot number correspond(s) to superscript in EPA Est. No.



HERBICIDE

KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted detalle.

(If you DO NOT understand this label, find someone to explain it to you in detail.)

For additional Precautionary Statements, handling, Directions for Use, (and Storage and Disposal), see inside of this booklet.

How can we help?
1-866-406-6262

ADAMA
ESSENTIALS

FIRST AID

IF IN EYES:

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

IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- **DO NOT** give any liquid to the person.
- **DO NOT** induce vomiting unless told to do so by a poison control center or doctor.
- **DO NOT** give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-250-9291 for emergency medical treatment information.

NOTE TO PHYSICIAN: Contains petroleum distillate.

In case of spills, fires, leaks or accidents call 1-800-535-5053.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

Causes substantial but temporary eye injury. Harmful if swallowed. **DO NOT** get in eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

ENGINEERING CONTROLS STATEMENTS

Handlers must use closed mixing loading systems during mixing/loading liquids for aerial applications to fallow land and high-acreage field crops.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- protective eyewear,
- long sleeved shirt and long pants, shoes plus socks, and
- chemical resistant gloves made of, barrier laminate, butyl rubber, nitrile rubber or viton.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.

If you will handle a total of 60 gallons or more of this product per day, you must use a mechanical transfer system for all mixing and loading operations. If this product is packaged in a 30-gallon drum, you must use a mechanical transfer system, which terminates in a drip-free hard coupling, which may be used only with a spray, or mix tank which has been fitted with a compatible coupling. If you **DO NOT** presently own or have access to a mechanical transfer system with this type of coupling, contact your dealer for information on how to obtain such a system or to modify your present system. When using a mechanical transfer system, **DO NOT** remove or disconnect the pump or probe from the container until the container has been emptied and rinsed. The pump or probe system must be used to rinse the empty container and to transfer the rinsate directly to the mixing or spray tank.

To reduce exposure to residues, wash the spray rig, tractor, and all other equipment used to handle or apply this product with water daily or before using the equipment for any other purpose.

APPLICATION BY CHEMIGATION must be done by fixed pipe, overhead sprinkler systems or hand moved pipe. If hand moved pipe is used for chemigation, the pipe must not be handled in any way until 24 hours after chemigation has been completed and residues have been flushed from the system. Where applying by chemigation, no person may enter the application site unless in an enclosed vehicle.

DURING AERIAL APPLICATION, human flaggers are prohibited unless in enclosed vehicles. Aerial application is prohibited within 300 feet of residential areas (e.g., homes, schools, playgrounds, hospitals, shopping areas, etc.)

User Safety Recommendations

Users should

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside
- 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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to wildlife and fish. Use with care when applying to areas frequented by wildlife or adjacent to any body of water. For terrestrial uses, **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. **DO NOT** apply when weather conditions favor drift from target areas. **DO NOT** contaminate water when cleaning equipment or disposing of washwaters.

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.

Reporting Ecological Incidents:

To report ecological incidents, including mortality, injury, or harm to plants and animals, call 1-866-406-6262.

PHYSICAL AND CHEMICAL HAZARDS

DO NOT use or store near heat or open flame.

DIRECTIONS FOR USE

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

Read entire label before using this product.

Endangered Species Protection Requirements:

It is a Federal offense to use any pesticide in a manner that results in an unauthorized "take" (e.g., kill or otherwise harm) of an endangered species and certain threatened species, under the Endangered Species Act section 9. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. You must obtain a Bulletin no earlier than six months before using this product. To obtain Bulletins, consult <http://www.epa.gov/espp/>, call 1-844-447-3813, or email ESPP@epa.gov. You must use the Bulletin valid for the month in which you will apply the product.

RESTRICTIONS:

- **DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.
- **DO NOT** apply with backpack or hand-held application equipment.
- Apply to non-residential turf only.
- **DO NOT** apply to residential, playground, schoolyard or golf course turf.
- Handlers must use closed mixing loading systems during mixing/loading liquids for aerial applications to fallow land and high-acreage field crops.
- Aerial application to fallow land is restricted within 25 feet of residential areas (e.g., homes, schools, playgrounds, shopping areas, hospitals, etc.). Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition et. al. v. EP, C01-0132C, (W.D.WA). For further information, please refer to <http://www.epa.gov/espp/listatus/wtdindex.htm>.

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 intervals. 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 2 days for onion, corn*, alfalfa, grass, mint and garlic. Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours for sod. The REI for harvesting sod farm turf is 12 days. The REI for other turf activities is 24 hours. For uses on turf grown for transplanting (e.g. on sod farms), notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

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 over long-sleeved shirt and long pants, chemical resistant gloves made of barrier laminate, butyl rubber \geq 14 mils, nitrile rubber \geq 14 mils, and viton \geq 14 mils, shoes plus socks, and protective eyewear.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to the use of this product on non-residential turfgrass and non-cropland and industrial sites that are NOT within the scope of the Worker Protection Standard (WPS) for Agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

DO NOT enter or allow others to enter the treated area until sprays have dried.

PRODUCT INFORMATION

Palouse™ is formulated as an emulsifiable concentrate of octanoic acid ester of bromoxynil containing the equivalent of 2 pounds of bromoxynil per gallon.

Palouse is a selective postemergence herbicide for control of important broadleaf weeds infesting corn (field and pop)*, sorghum (grain and forage)*, wheat, barley, oats, rye, triticale, alfalfa (seedling), flax*, onions (dry bulb), garlic, mint (established peppermint and spearmint), Conservation Reserve Program (CRP) areas, grasses grown for seed or sod production, non-residential turfgrass, and noncropland and industrial sites. Optimum weed control is obtained when Palouse is applied to actively growing weed seedlings. Palouse is primarily a contact herbicide; therefore, thorough coverage of the weed seedlings is essential for optimum control.

Palouse has little residual activity. Therefore, subsequent flushes of weeds will not be controlled by the initial treatment. Generally, crops that form a good canopy will help shade subsequent weed flushes. However, certain crops or short-straw varieties, for example Yaccora Rojo wheat, may not develop the crop canopy fast enough to shade the subsequent flushes of weeds.

Occasional transitory leaf burn may occur. The temporary leaf burn is similar to that seen with liquid fertilizer. Because the activity of Palouse is not systemic, recovery of the crop is generally rapid with no lasting effect. Frequency and amount of leaf burn may be greater when crops are stressed by abrasive winds, cool to cold evening temperatures or mechanical injury, such as that caused by hail, sleet or insect feeding. To reduce the potential for temporary leaf burn, applications should be made to dry foliage in the directed spray volumes per acre when weather conditions are not extreme.

*Not registered for use in California.

MIXING, LOADING AND HANDLING INSTRUCTIONS

2.5 Gallon Containers

Special care must be taken in mixing and loading this product. Hands should be placed on the container in such a way as to avoid possible drip or splash.

30 Gallon and Bulk Containers

If you will handle a total of 60 gallons or more of this product per day, you must use a mechanical transfer system for all mixing and loading operations. If this product is packaged in a 30-gallon drum, you must use a mechanical transfer system, which terminates in a drip-free hard coupling, which may be used only with a spray, or mix tank which has been fitted with a compatible coupling. If you **DO NOT** presently own or have access to a mechanical transfer system with this type of coupling, contact your dealer for information on how to obtain such a system or to modify your present system. When using a mechanical transfer system, **DO NOT** remove or disconnect the pump or probe from the container until the container has been emptied and rinsed. The pump or probe system must be used to rinse the empty container and to transfer the rinseate directly to the mixing or spray tank.

Palouse ALONE: Fill the spray tank 1/2 to 3/4 full with clean water. Begin agitation and add the specified amount of Palouse. Add water to the spray tank to the desired level. Maintain sufficient agitation to ensure a uniform spray mixture during application.

TANK MIXTURES: Palouse can be tank-mixed with other pesticide products provided that these other products are registered for use on the crop/use site to be treated. The tank mix must be used in accordance with the more restrictive pesticide label limitations and precautions. No label dosage rates may be exceeded. Palouse cannot be mixed with any product containing a label prohibition against such mixing. To apply Palouse in mixture with another product, fill the spray tank 1/2 to 3/4 full with clean water and begin agitation. If tank mixing with wettable powder, soluble powder, flowable or dry flowable products, add the powder or flowable product first. After the other herbicide is thoroughly mixed with water, add the specified amount of Palouse and add water to the spray tank to the desired level. If tank mixing with other product types, add the Palouse first before adding the other product. Always mix one product in water thoroughly before adding another product or compatibility problems may occur. Never mix two products together without first mixing in water.

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

Maintain sufficient agitation while mixing and during application to ensure a uniform spray mixture. If spray mixture is allowed to remain without agitation for short periods of time, be sure to agitate until uniformly mixed before application.

COMPATIBILITY OF OTHER PESTICIDES WITH Palouse

The following pesticides are compatible with Palouse as tank mixtures.

INSECTICIDE COMMON NAME

Acephate	Esfenvalerate
Amitraz	Imidacloprid
Carbaryl	Lambda-Cyhalothrin
Carbofuran	Malathion
Chlorpyrifos	Methomyl
Cyfluthrin	Oxamyl
Deltamethrin	Permethrin
Diazinon	Thiodicarb
Dicrotophos	Trichlorfon
Dimethoate	Zeta-Cypermethrin

HERBICIDE COMMON NAME

Prometryn	Pyriithiobac-Sodium
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PLANT GROWTH REGULATORS COMMON NAME

Mepiquat Chloride

If tank mixing with products other than those listed above or within each crop section, a compatibility test is recommended to ensure satisfactory spray preparation. To test for compatibility, use a small container and mix a small amount (0.5 to 1 quart) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, **DO NOT** use this mixture for spraying. Indications of incompatibility usually will appear within 5 to 15 minutes after mixing. To ensure maximum crop safety and weed control, follow all cautions and limitations on this label and the labels of products used in the tank mixture with Palouse.

SPRAYABLE LIQUID FERTILIZERS AND SPRAY ADDITIVES

Palouse can be applied in combination with sprayable liquid fertilizer or spray additives such as surfactants or crop oil concentrate. When tank mixing with liquid fertilizer always add the fertilizer to the spray tank first and agitate thoroughly before adding Palouse. Always predetermine the compatibility with liquid fertilizer by mixing small proportional quantities in advance. Agitation must be maintained during filling and application operations to ensure that Palouse is evenly mixed with the fertilizer. Leaf burn may occur when Palouse is applied with liquid fertilizer, but new leaves are not adversely affected.

CAUTION: Fertilizers and spray additives can increase foliage leaf burn when applied with Palouse. **DO NOT** apply fertilizers or spray additives with Palouse if leaf burn is a major concern due to environmental conditions, crop or variety sensitivity to Palouse. **DO NOT** apply Palouse in combination with fertilizers or spray additives if restricted under the individual crop use directions.

APPLICATION PROCEDURES

Palouse can be applied to registered use areas by ground, aerial and sprinkler irrigation equipment. The following provides registered methods of application for each crop.

CROP	TYPE OF APPLICATION EQUIPMENT		
	GROUND	AERIAL	SPRINKLER IRRIGATION
Corn, (field and pop)*	X	X	X
Sorghum (grain and forage)*, and Sudangrass*	X	X	X
Wheat, Barley, Oats, Rye, and Triticale	X	X	X
Alfalfa (seedling)	X	X	X
Flax*	X	X	-
Garlic	X	X	X
Mint	X	-	X
Onions (dry bulb)	X	X**	X
Grass grown for seed or sod production	X	X	X
Conservation Reserve Program (CRP) areas	X	X	X
Non-residential turfgrass	X	X	-
Non-cropland/Industrial sites	X	X	-

(X) indicates registered application use

** Preemergence only

*Not registered for use in California.

GROUND APPLICATION

Use a standard herbicide boom sprayer that provides uniform and accurate application. Sprayer should be equipped with screens no finer than 50 mesh in the nozzle tips and in-line strainers.

Select a spray volume and delivery system that will ensure thorough and uniform spray coverage. For optimum spray, distribution and thorough coverage use of flat fan nozzles (maximum tip size 8008) with a spray pressure of 40-60 psi are recommended. Other nozzle types and lower spray pressures that produce coarse spray droplets may not provide adequate coverage of the weeds to ensure optimum control. Raindrop® nozzles and flood nozzles are not recommended as weed control with Palouse may be reduced.

ADAMA recommends, a spray volume of 10 to 20 gallons per acre (GPA) for optimum spray coverage. A minimum of 5 GPA with a minimum spray pressure of 50 psi and a maximum ground speed of 10 mph may be used with higher speed, low volume ground application if ground terrain, crop, and weed density allow effective spray distribution. When using higher speed equipment, a maximum ground speed of 10 mph is suggested if field conditions cause excessive boom movement during application which results in poor spray coverage. Ground applications made when dry, dusty field conditions exist may provide reduced weed control in wheel track areas. Applications using less than 10 gallons per acre may result in reduced weed control.

When weed infestations are heavy, use of higher spray volumes and spray pressure will be helpful in obtaining uniform weed coverage. When corn* or grain sorghum* are large enough to interfere with the spray pattern, drop nozzles should be used to obtain uniform weed coverage. If you are unsure of the infestation level or size of crop, consult your local extension service.

DO NOT apply when winds are gusty or when other conditions favor poor spray coverage and/or off target spray movement.

AERIAL APPLICATION

Use orifice discs, cores and nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage. In general, a minimum spray volume of 5 GPA and a maximum pressure of 40 psi are recommended.

DO NOT apply during inversion conditions, when winds are gusty or when other conditions favor poor spray coverage and/or off target spray movement. Off target spray movement can be minimized by increasing the spray volume per acre and not applying when winds exceed 10 mph.

SPRINKLER IRRIGATION APPLICATION

Palouse can be applied through sprinkler irrigation systems to wheat, barley, oats, rye and triticale, field corn*, popcorn*, and grain sorghum*, mint, grasses grown for seed or sod production, garlic, onions (dry bulb) and seedling alfalfa.

Apply Palouse through sprinkler systems including center pivot, lateral move, side (wheel) roll, solid set, or hand move irrigation systems only. If hand moved pipe is used for chemigation, the pipe must not be handled in any way until 24 hours after chemigation has been completed and residues have been flushed from the system. When applying by chemigation, no person may enter the application site unless in an enclosed vehicle.

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

SPECIFIC REQUIREMENTS FOR APPLICATION THROUGH AUTOMATED SPRINKLER IRRIGATION SYSTEM.

1. The 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. 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.
7. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.
8. Agitation is recommended in the pesticide supply tank when applying Palouse.
9. Palouse should be applied continuously for the duration of the water application with center pivot and continuous lateral move systems. Application of Palouse should be made during the last 30-45 minutes of the irrigation set with other overhead sprinkler systems.
10. For best performance, set the sprinkler system to deliver approximately 0.5 inch or less of water per acre.
11. Remove scale, pesticide residues, and other foreign matter from the supply tank and entire injector system. Flush with clean water.
12. If Palouse is diluted in the supply tank, fill the tank with half of the water amount desired, add the Palouse, and then add remaining water amount with agitation. Always dilute with at least 4 parts water to 1 part Palouse.
13. Start the sprinklers and then inject Palouse into the irrigation line. Palouse should be injected with a positive displacement pump into the main line at least 8 feet ahead of a right angle turn to insure adequate mixing. Refer to the Palouse label for detailed information on application rates and timings.

CHEMIGATION USER PRECAUTIONS

Application of more than 0.5 inch/acre of irrigation water may result in decreased product performance on certain soils.

DO NOT apply when conditions favor drift, when system connections or fittings leak, or when nozzles **DO NOT** provide uniform distribution. Allow sufficient time for pesticide to be flushed through all the lines and nozzles before turning off irrigation water.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. **DO NOT** connect an irrigation system used for pesticide application to a public water system.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

CULTIVATION

When properly utilized, timely cultivations of row crops may aid overall weed control efforts as well as crop growth. However, cultivation BEFORE or DURING Palouse applications may place target weeds under stress, resulting in erratic weed control. Whenever Palouse is being utilized in an overall weed control program, plan to postpone any anticipated cultivations until 5-7 days after application to ensure best performance.

SPRAY DRIFT

Aerial Applications:

- **DO NOT** release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- Select a nozzle and pressure that deliver fine or coarser droplets
- The distance of the outer most nozzles on the boom must not exceed 75% of the length of the wingspan or 90% of the rotor diameter
- **DO NOT** apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

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 a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

Adjust Nozzles - Follow nozzle manufacturers 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. **DO NOT** make applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

WEED LIST

Postemergence application of Palouse will control the following weeds when sprayed in the seedling stage. Maximum weed stage of growth is listed under USES for each crop.

MOST SUSCEPTIBLE BROADLEAF WEED SPECIES

Annual Sowthistle	(<i>Sonchus oleraceus</i>)
Black Nightshade	(<i>Solanum nigrum</i>)
Blue Mustard	(<i>Chorispora tenella</i>)
Bristly starbur	(<i>Acanthospermum hispidum</i>)
Coast Fiddleneck	(<i>Amsinckia intermedia</i>)
Common Cocklebur	(<i>Xanthium strumarium</i>)
Common Lambsquarters	(<i>Chenopodium album</i>)
Common Tarweed	(<i>Hemizonia congesta</i>)
Cutleaf Nightshade	(<i>Solanum triflorum</i>)
Eastern Black Nightshade	(<i>Solanum ptycanthum</i>)
Field Pennycress	(<i>Thlaspi arvense</i>)
Green Smartweed	(<i>Polygonum scabrum</i>)
Hairy Nightshade	(<i>Solanum sarachoides</i>)
Jimsonweed	(<i>Datura stramonium</i>)
Ladysthumb	(<i>Polygonum persicaria</i>)
*Lanceleaf sage	(<i>Satvia reflexa</i>)
Pennsylvania Smartweed	(<i>Polygonum pennsylvanicum</i>)
Pepperweed spp.	(annual) (<i>Lepidium spp.</i>)
Shepherdspurse	(<i>Capsella bursa-pastoris</i>)
Silverleaf Nightshade	(<i>Solanum elaeagnifolium</i>)
Tartary Buckwheat	(<i>Fagopyrum tataricum</i>)
¹ Sunflower	(<i>Helianthus annuus</i>)
Wild Buckwheat	(<i>Polygonum convolvulus</i>)

SUSCEPTIBLE BROADLEAF WEED SPECIES

Buffalobur	(<i>Solarium rostratum</i>)
Burcucumber	(<i>Sicyos angulatus</i>)
Cluster Flower	(<i>Flaveria trinervia</i>)
Common Groundsel	(<i>Senecio vulgaris</i>)
Common ragweed	(<i>Ambrosia artemisiifolia</i>)
Corn Chamomile	(<i>Anthemis arvensis</i>).
Corn Gromwell	(<i>Lithospermum arvense</i>)
Cow Cockle	(<i>Saponaria vaccaria</i>)
Devils claw	(<i>Proboscidea louisianica</i>)
Giant Ragweed	(<i>Ambrosia trifida</i>)
Hemp Sesbania	(<i>Sesbania exaltata</i>)
Hophornbean Copperleaf	(<i>Acalypha ostryaefolia</i>)
Ivyleaf morningglory	(<i>Ipomoea hederacea</i>)
Knawel	(<i>Scleranthus annus</i> .)
² Kochia	(<i>Kochia scoparia</i>)
London Rocket	(<i>Sisymbrium irio</i>)
Mayweed	(<i>Anthemis cotula</i>)
Pitted morningglory	(<i>Ipomoea lacunosa</i>)
Prairie sunflower	(<i>Helianthus petiolaris</i>)
Prostrate Knotweed	(<i>Polygonum aviculare</i>)
Puncture Vine	(<i>Tribulus terrestris</i>)
² Redroot Pigweed	(<i>Amaranthus retroflexus</i>)
Russian thistle	(<i>Salsola kali</i>)
² Spiny Pigweed	(<i>Amaranthus spinosus</i>)
Tall Morningglory	(<i>Ipomoea purpurea</i>)
² Tall Waterhemp	(<i>Amaranthus tuberculatus</i>)
Tumble mustard	(<i>Sisymbrium aittissimum</i>)
Velvetleaf	(<i>Abutilon theophrasti</i>)
Venice Mallow	(<i>Hibiscus trionum</i>)
Wild Mustard	(<i>Sinapis arvensis</i>)
Wild Radish	(<i>Raphanus raphanistrum</i>)
Woolly Croton	(<i>Croton capitatus</i>)
Yellow Starthistle	(<i>Centaurea solstitialis</i>)

¹ For control of sunflower, delay application until first emerging sunflower seedlings are 4 inches in height.

² For effective control, these weeds should not exceed the 4-leaf stage or 2 inches in height, whichever comes first.

*Not registered for use in California.

WEED SUPPRESSION

Palouse suppresses the growth of Canada thistle (*Cirsium arvense*) by burning down top growth. Regrowth may occur.

CALIFORNIA REGISTRATIONS

Only the following directions referenced in this label are registered for use in California: seedling alfalfa, small grains (wheat, barley, oats, rye and triticale), flax*, corn* (post emergence application only), sorghum* (post emergence application only), mint, onions, garlic; chemigation in seedling alfalfa, small grains, onions and garlic; grass for seed and sod production, non-residential turfgrass; and non-cropland and industrial sites. All applications must be made with a minimum spray volume of 10 GPA by ground or 5 GPA by air equipment.

*Not registered for use in CA.

WEED RESISTANCE MANAGEMENT

Palouse is a Group 6 herbicide. Any weed population may contain or develop plants naturally resistant to bromoxynil octanoate and other Group 6 herbicides. Weed species with acquired resistance to Group 6 may eventually dominate the weed population if Group 6 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by bromoxynil octanoate or other Group 6 herbicides.

Weed Management

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

- Rotate the use of this product or other Group 6 herbicides within a growing season sequence of among growing seasons with different herbicide groups that control the same weeds in the field.
- 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 consider 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.
- Scout before and after herbicide application to monitor weed populations for early signs or 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, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact ADAMA at **1-866-406-6262**.

USE INSTRUCTIONS

CEREAL GRAIN CROPS

CORN (FIELD AND POP)*, SORGHUM (GRAIN AND FORAGE)* , AND SUDANGRASS*

CROP	RATE	WEEDS
Apply to corn or sorghum before planting until just prior to crop emergence.	Preemergence 1.0-1.5 pt/A	See CORN AND SORGHUM APPLICATION RATE TABLE - Palouse for list of weeds and corresponding stages of growth that are controlled by Palouse at specified rates of application. For control of additional weeds not listed in the rate table see the WEED LIST.
Apply to corn after emergence but prior to tassel emergence. Apply to sorghum and Sudangrass between the 3-leaf stage but prior to the preboot stage (growth stage 4).	1.0 pt/A	
Apply to corn between the 4-leaf stage and prior to tassel emergence.	1.5 pt/A	
Apply to sorghum and sudangrass between the 4-leaf stage but prior to preboot stage (growth stage 4).		

CROP	RATE	WEEDS
Apply to field corn only between the 4- leaf stage but prior to tassel emergence. RESTRICTION: DO NOT APPLY THE 2.0 PT/A (0.25 gal/A) RATE OF Palouse ALONE OR IN TANK- MIXTURES TO SORGHUM.	2.0 pt/A	Use the 2.0 pt/A rate on corn to control susceptible weeds that are growing under less than optimum conditions and where Palouse + atrazine tank mixtures cannot be used.
Apply to corn after emergence but prior to tassel emergence. Apply to sorghum and sudangrass after emergence but prior to preboot stage (growth stage 4). Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING, LOADING AND HANDLING INSTRUCTIONS section for complete details.	Chemigation 2.0 pt/A only	Apply to MOST SUSCEPTIBLE broadleaf weeds up to the 8-leaf stage or 4 inches in height or 2 inches in diameter, whichever comes first. Apply to SUSCEPTIBLE broadleaf weeds up to the 4-leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. DO NOT use chemigation for control of weeds that exceed 4 inches in height because control may be unacceptable.

*Not registered for use in California.

CORN* AND SORGHUM* APPLICATION RATE TABLE

WEED SPECIES ¹		1.0 pt/A		1.5 to 2.0 pt/A ⁴	
When determining leaf stage, count all leaves except cotyledonary leaves		Max. Leaf Stage	Max. Weed Height (inches)	Max. Leaf Stage	Max. Weed Height (inches)
Black Nightshade (<i>Solanum nigrum</i>)		6	6	6	6
Buffalobur (<i>Solanum rostratum</i>)		4	2	6	4
Burcucumber (<i>Sicyos angulatus</i>)		-	-	4	4
Common Cocklebur (<i>Xanthium strumarium</i>)		6	8	8	10
Common Lambsquarters (<i>Chenopodium album</i>)		-	6	-	8
Common Ragweed (<i>Ambrosia artemisiifolia</i>)		6	4	8	6
Eastern Black Nightshade (<i>Solanum ptycanthum</i>)		6	6	6	6
Giant Ragweed (<i>Ambrosia trifida</i>)		6	4	6	6
Hemp Sesbania (<i>Sesbania exaltata</i>)		-	-	4	4
Ivyleaf Morningglory (<i>Ipomoea hederacea</i>)		3	3	4	4
Jimsonweed (<i>Datura stramonium</i>)		4	4	6	6
Kochia (<i>Kochia scoparia</i>)		-	-	-	2
Ladysthumb (<i>Polygonum persicaria</i>)		4	4	6	6
Pennsylvania Smartweed (<i>Polygonum pennsylvanicum</i>)		4	4	6	6
*Pitted Morningglory (<i>Ipomoea lacunosa</i>)		3	3	4	4
Redroot Pigweed ³ (<i>Amaranthus retroflexus</i>)		-	-	4	2
Spiny Pigweed ³ (<i>Amaranthus spinosus</i>)		-	-	4	2
Sunflower (<i>Helianthus annuus</i>)		4	6	6	8
Tall Morningglory (<i>Ipomoea purpurea</i>)		3	3	4	4

WEED SPECIES ¹		1.0 pt/A		1.5 to 2.0 pt/A ⁴	
When determining leaf stage, count all leaves except cotyledonary leaves		Max. Leaf Stage	Max. Weed Height (inches)	Max. Leaf Stage	Max. Weed Height (inches)
Tall Waterhemp ³	(<i>Amaranthus tuberculatus</i>)	-	-	4	2
Velvetleaf	(<i>Abutilon theophrasti</i>)	4	3	6	5
Venice Mallow	(<i>Hibiscus trionum</i>)	-	-	4	2
Wild Buckwheat	(<i>Polygonum convolvulus</i>)	4	6	6	8
Wild Mustard	(<i>Sinapis arvensis</i>)	-	-	4	4

WEEDS SUPPRESSED²

Canada Thistle	(<i>Cirsium arvense</i>)	Not Recommended	8 inch to bud stage
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1. When determining leaf stage, count all leaves except cotyledonary leaves.

2. Palouse suppresses the growth by burning down of top growth. Regrowth may occur.

3. Control of pigweeds in the high plains areas of Texas and Oklahoma may not be satisfactory with Palouse. Repeat applications may be necessary to achieve satisfactory control.

4. **DO NOT** apply Palouse at the 2.0 pt/A (0.25 gal/A) rate to sorghum

*Not registered for use in California.

RESTRICTIONS:

- **DO NOT** apply Palouse to postemergence to seed corn inbreds or popcorn prior to the 3 leaf stage of crop growth as excessive crop leaf burn may occur.
- **DO NOT** plant rotational crops within 30 days following Palouse application.
- **DO NOT** cut crop for feed, fodder or graze within 30 days of application.
- The total cumulative rate must not exceed 2.0 pt/A per year (0.5 lb AI bromoxynil/A; 0.25 gal Palouse/A).
- Follow all restrictions and precautions on the label of all products used in tank mixture with Palouse.
- **DO NOT** apply Palouse at any rate to sorghum after the preboot stage of growth (growth stage 4) as severe crop injury; including loss of crop yield may result.
- **DO NOT** apply the 2.0 pt/A (0.25 gal Palouse/A) rate to sorghum.
- **DO NOT** apply the Palouse + imazethapyr tank mix except to field corn hybrids known to possess resistance to imazethapyr, or severe crop injury may result.
- **DO NOT** use dicamba in a tank mixture with Palouse or Palouse + atrazine on sorghum.

PRECAUTIONS:

- Palouse does not control grasses. Therefore, it is recommended that a suitable grass control program be used to provide any required grass control.
- Addition of a spray additive or mixture with liquid fertilizers may cause excessive crop leaf burn.
- Seed corn producers should consult the respective seed corn company regarding tolerance of certain-seed production inbred lines to Palouse.
- Postemergence application prior to the 3 leaf growth stage of corn or sorghum may result in increased crop leaf burn.
- Tank mixtures with nicosulfuron/nonionic surfactant or primisulfuron-methyl/nonionic surfactant may result in increased initial crop leaf burn. Use of crop oil concentrate, nitrogen fertilizer solution or other adjuvants in Palouse + nicosulfuron or Palouse + primisulfuron-methyl tank mixtures may result in a further increase in crop leaf burn.
- Special care must be taken when using Palouse and dicamba or 2, 4-D tank mixtures to avoid off target drift to sensitive crops.
- Tank mixtures with 2, 4-D, dicamba can cause stalk brittleness to field corn. Tank mixtures with 2, 4-D and dicamba, can cause stalk brittleness to sorghum. Winds or cultivation may cause breakage while crop is brittle.

FORAGE, FIBER AND SPECIALTY CROPS ALFALFA (SEEDLING)

APPLICATION TIMING AND SPECIFIC COMMENTS		
RATE	CROP	WEEDS
1.0-1.5 pt/A	<p>In the states of California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, Arizona, New Mexico, and the western halves of North Dakota, South Dakota, Nebraska and Kansas:</p> <p>Apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 -trifoliates,</p> <p>PRECAUTIONS: Unacceptable crop injury may occur to alfalfa seedlings less than the 2 trifoliolate stage. Palouse application made when temperatures are expected to exceed 80°F at and 3 days following application can result in unacceptable crop injury.</p> <p>In the remaining states, apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 4 trifoliolate leaves.</p> <p>PRECAUTIONS: When alfalfa stand- is uneven and conditions favor leaf burn, unacceptable crop injury may occur to alfalfa in the 2 trifoliolate or smaller stage of growth. If you are unsure of growth stage conditions, contact your local extension service. Palouse applications made when temperatures are expected to exceed 70°F at and 3 days following application can result in unacceptable crop injury.</p> <p>Follow all other use directions listed on the Palouse label.</p>	<p>Apply 1 pt/A to MOST SUSCEPTIBLE broadleaf weeds and 1.5 pt/A to SUSCEPTIBLE broadleaf weeds (See WEED LIST) when weeds DO NOT exceed 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. Palouse will not adequately control overwintered pennycress, henbit, and mustards.</p>
Chemigation 2.0 pt/A Only	<p>Apply to seedling alfalfa with a minimum of 2 trifoliolate leaves. Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING LOADING AND HANDLING INSTRUCTIONS Section for complete details.</p> <p>Palouse applications made when temperatures are expected to exceed 85°F at and 3 days following application can result in unacceptable crop injury.</p>	<p>Apply to MOST SUSCEPTIBLE broadleaf weeds up to the 8 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first. Apply to SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.</p>

RESTRICTIONS: Alfalfa (Seedling)

- **DO NOT** apply when alfalfa is under moisture, temperature, insect, or disease stress or has been stressed by other pesticide carryover or application.
- **DO NOT** cut for feed or graze spring treated alfalfa within 30 days following treatment.
- **DO NOT** cut for feed or graze fall or winter treated alfalfa until spring, at least 60 days following treatment.
- **DO NOT** plant rotational crops within 30 days following Palouse application.
- The total cumulative rate of Palouse must not exceed 2.0 pt/A per year (0.5 lb Al Bromoxynil/A).

PRECAUTIONS: Alfalfa (Seedling)

- Crop leaf burn can occur following Palouse application. Warm, humid conditions may enhance leaf burning. New crop growth will not be affected. Alfalfa yield should not be reduced although total biomass tonnage may decrease compared to a weedy field due to weed removal.
- If combined with herbicides requiring oil adjuvants or surfactants, increased alfalfa injury will occur.
- The use of EPTC preemergence may enhance crop leaf burn from postemergence application of Palouse and should be considered prior to using Palouse.
- Tank mixture with 2,4-DB may result in unacceptable crop leaf burn especially under warm, humid weather conditions.
- Palouse alone can be applied to seedling alfalfa that has been underseeded into small grains that include wheat, barley, oats, rye, and triticale. See application restrictions under the SMALL GRAINS SECTION.
- Rainfall or overhead irrigation within 7-10 days following 2,4-DB application can cause unacceptable crop injury.
- Follow all restrictions and precautions on the tank mixture product label when an Palouse tank mixture is used.

FLAX*
(*Linum usitatissimum* only)

APPLICATION TIMING AND SPECIFIC COMMENTS		
RATE	CROP	WEEDS
1.0 pt/A	Apply to flax that is 2 to 8 inches in height. DO NOT apply Palouse to flax during or after the bud stage.	Apply to MOST SUSCEPTIBLE weeds that DO NOT exceed the 4-leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.

*Not registered for use in California.

RESTRICTIONS:

- **DO NOT** plant rotational crops within 30 days following Palouse application.
- **DO NOT** apply within 30 days of harvest.
- **DO NOT** apply if temperatures are expected to exceed 85° F at or 3 days following application or crop injury may occur.
- **DO NOT** use on ornamental flax.
- **DO NOT** apply more than 2.0 pt/A of Palouse per acre in a single growing year (0.5 lb AI bromoxynil/A).
- Unless otherwise instructed, **DO NOT** apply Palouse to flax with crop oil concentrate, surfactants or nitrogen solutions.

PRECAUTIONS:

- Unacceptable crop injury may occur following Palouse application to flax grown on high organic, peat type soils.
- Application under high humidity conditions can injure flax.

GARLIC

APPLICATION TIMING AND SPECIFIC COMMENTS		
RATE	CROP	WEEDS
1.5-2.0 pt/A	Apply to garlic after emergence but before 12 inches in height.	Apply to MOST SUSCEPTIBLE and SUSCEPTIBLE broadleaf weeds up to the 4-leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.
1.5-2.0 pt/A	Apply to garlic after emergence but before 12 inches in height. May be harvested 60 days after treatment. Only for garlic grown in muck soils in Northeastern United States.	

RESTRICTIONS:

- **DO NOT** plant rotational crops within 30 days following Palouse application.
- Use a minimum of 20 gallons per acre for ground application.
- Palouse can be applied through automated sprinkler irrigation application.
- **DO NOT** harvest within 112 days following treatment (except garlic grown in muck soils in Northeastern United States, PHI is 60 days).
- **DO NOT** apply more than 2.0 pints of Palouse per acre in a single growing year (0.5 lb AI bromoxynil/A).

MINT
(ESTABLISHED PEPPERMINT AND SPEARMINT ONLY)

APPLICATION TIMING AND SPECIFIC COMMENTS		
RATE	CROP	WEEDS
1.0-1.5 pt/A	Apply to dormant or actively growing established peppermint or spearmint crops that exhibit good vigor.	Apply to MOST SUSCEPTIBLE and SUSCEPTIBLE weeds that DO NOT exceed the 4-leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.
Chemigation 2.0 pt/A only	Apply to dormant or actively growing established peppermint or spearmint crops that exhibit good vigor. Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING, LOADING AND HANDLING INSTRUCTIONS section for complete details.	

RESTRICTIONS:

- **DO NOT** apply to mint growing under adverse conditions including diseases, insects, nematodes, high salt content soil, drought, excessive moisture, winter damage, or other environmental stress.
- **DO NOT** use in spring on newly established mint. Fall applications to spring planted mint should be acceptable if the crop is well established.
- **DO NOT** harvest within 70 days following treatment.
- **DO NOT** apply more than 6.0 pt/A of Palouse per acre to mint in a single growing year (1.5 lb AI bromoxynil/A; 0.75 gal Palouse/A).
- **DO NOT** plant rotational crops within 30 days following Palouse application.

PRECAUTIONS:

- Application made to mint when temperatures are expected to exceed 70°F at or 5 days following application may result in unacceptable crop injury. This injury is more likely to occur following Palouse application in the spring.
- Palouse can cause temporary stunting and discoloration of the mint particularly from the spring application. However, the injury symptoms are only temporary and have not caused yield reduction.
- Use of Palouse in combination with other products may increase temporary stunting and discoloration.
- Application of Palouse to mint should not be made within two weeks of a terbacil application or unacceptable crop injury may result.

ONIONS
(DRY BULB)

APPLICATION TIMING AND SPECIFIC COMMENTS		
RATE	CROP	WEEDS
Preemergence 1.0-1.5 pt/A	Preemergence use is restricted to onions grown east of the Mississippi River only on muck soils containing greater than 10% organic matter. Apply at least 3 to 4 days prior to emergence. PRECAUTION: Rainfall or irrigation within 2 days following preemergence applications or 3 days prior to crop emergence may result in unacceptable crop injury. Preemergence applications can be applied using either ground or aerial equipment.	Apply Palouse at 1.0 pt/A to control MOST SUSCEPTIBLE weeds and 1.5 pt/A for SUSCEPTIBLE weeds. Weeds should not exceed the 4-leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.
Postemergence 1.0-1.5 pt/A	Apply only to onions, which have 2 to 5 true leaves. Use at least 50-70 gallons of water per acre and apply by ground equipment or chemigation only. Water volume is important. CONCENTRATED SPRAYS KILL ONIONS. Thorough and uniform coverage is necessary for good weed control. In onion-producing areas, certain environmental conditions reduce development of waxy coating on the onion leaves, thus increasing the possibility of injury. Dry soil, dry onion foliage, high light intensity, low humidity, and high temperatures tend to increase the waxy coating on onion leaves and thus reducing chances for injury. It is essential that the soil and onion foliage be dry at the time of application. Humidity should be low and dew should be off the plants.	

RESTRICTIONS:

- **DO NOT** apply more than 1.5 pt (0.187 gal Palouse/A) of Palouse per acre in a single growing year.
- **DO NOT** exceed a maximum annual application rate of 0.375 lbs AI bromoxynil/A/year.
- **DO NOT** irrigate onions that have received a preemergence application of Palouse for 2 days following application or within 3 days of crop emergence.
- **DO NOT** apply Palouse preemergence to onions grown west of the Mississippi River.
- **DO NOT** use Palouse on onions grown under low light intensity, in areas such as Oregon, west of the Cascades.
- **DO NOT** treat onions damaged by sand, insects, or diseases.
- **DO NOT** apply postemergence applications of Palouse to onions with aerial equipment.
- **DO NOT** add surfactant.
- **DO NOT** plant rotational crops within 30 days following Palouse application.
- Preharvest interval is 30 days.

PRECAUTIONS:

- The sensitivity of onions to Palouse varies with the variety and environmental conditions. Therefore, even if all the label directions are followed, Palouse application still may cause injury to onions under certain circumstances.

WHEAT, BARLEY, OATS, RYE, AND TRITICALE

APPLICATION TIMING AND SPECIFIC COMMENTS		
RATE	CROP	WEEDS
1.0-2.0 pt/A	Spring seeded wheat, barley, oats, rye, and triticale. Use in all states except Idaho, Oregon, Washington, Colorado, Wyoming, and Montana. Apply from emergence up and prior to the boot stage.	Apply 1.0 pt/A to MOST SUSCEPTIBLE and 1.5-2.0 pt/A to SUSCEPTIBLE weeds that DO NOT exceed the 4 leaf stage or 2 inches in height, whichever comes first. If weed forms rosette, apply before weeds exceeded 1 inch in diameter. Use Palouse at 1.5-2.0 pt/A for control of kochia that is 2 - 4 inches in height and pigweed that does not exceed the 4 leaf stage or 2 inches in height, whichever comes first.
1.5-2.0 pt/A	Fall seeded wheat, barley, oats, rye, and triticale throughout the United States. Apply from emergence to the boot stage. Spring seeded wheat, barley, oats, rye, and triticale in Idaho, Oregon, Washington, Colorado, Wyoming, and Montana. Apply from emergence up and prior to the boot stage.	Apply to MOST SUSCEPTIBLE weeds (see WEED LIST) up to the 8 leaf stage or 4 inches in height, whichever comes first. If weed forms rosette apply before weeds exceed 2 inches in diameter. Apply to SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.
Small Grains underseeded with Alfalfa 1.0-1.5 pt/A	Apply to wheat, barley, oats, rye or triticale under seeded with alfalfa after small grains emergence up to the boot stage and when under seeded alfalfa has a minimum of 4 trifoliate leaves. Follow all precautions and restrictions listed under the wheat, barley, oats, rye or triticale and seedling alfalfa sections.	Apply 1.0 pt/A to MOST SUSCEPTIBLE and 1.5 pt/A to SUSCEPTIBLE broadleaf weeds that DO NOT exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.

RESTRICTIONS:

- The total cumulative rate must not exceed 2.0 pt/A per year (0.25 gal Palouse/A).
- **DO NOT** exceed a maximum annual application rate of 0.5 lbs AI bromoxynil/A/year.
- **DO NOT** graze treated fields within 45 days following treatment.
- **DO NOT** apply when crops are under moisture stress.
- **DO NOT** apply when crop canopy covers the weeds as poor weed control will result.

- **DO NOT** apply when under seeded alfalfa is under moisture, temperature, insect, or disease stress or has been stressed by other pesticide carryover or application.
- **DO NOT** add surfactant or crop oil when applying to under seeded alfalfa or increased injury will occur.
- **DO NOT** cut for feed or graze spring treated under seeded alfalfa within 30 days following treatment.
- **DO NOT** cut for feed or graze fall or winter treated under seeded alfalfa until spring, at least 60 days following treatment.
- **DO NOT** plant rotational crops within 30 days following Palouse application.

PRECAUTIONS:

- Reduced weed control may occur when weeds are stressed from lack of moisture or cold temperatures.
- Refer to labels of products used in tank mixture for additional restrictions and precautions.

**GRASS CROPS
CONSERVATION RESERVE PROGRAM (CRP) AREAS**

APPLICATION TIMING AND SPECIFIC COMMENTS		
RATE	CROP	WEEDS
1.0-2.0 pt/A	Apply to grasses after emergence. If alfalfa is planted, apply after the 4 trifoliate leaf stage.	Apply to MOST SUSCEPTIBLE and SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.
Chemigation 2.0 pt/A only	Apply to grasses after emergence. If alfalfa is planted, apply after the 4 trifoliate leaf stage. Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING; LOADING AND HANDLING INSTRUCTIONS section for complete details.	

RESTRICTIONS:

- **DO NOT** apply more than 1.5 pt/A of Palouse to CRP areas that are under seeded with alfalfa.
- **DO NOT** exceed a maximum annual application rate of 0.5 lbs AI/A/year.
- Maximum rate for areas underseeded with alfalfa is 0.375 lb AI/year (1.5 pt/A Palouse).
- **DO NOT** allow livestock to graze in treated areas or feed treated grasses, forage, hay, straw, silage, or seed to livestock.
- **DO NOT** add spray adjuvants or fluid fertilizers when applying Palouse to CRP areas planted with alfalfa or other legumes.
- **DO NOT** apply Palouse to CRP areas planted with alfalfa if temperatures are expected to exceed 80°F or severe crop injury may occur. If legumes other than alfalfa have been planted, severe crop injury may occur at any application temperature.

GRASSES GROWN FOR SEED OR SOD PRODUCTION

Seedling and Established Grasses

RATE		APPLICATION TIMING AND SPECIFIC COMMENTS	
Per ACRE	Per 1000 SQ FT	CROP	WEEDS
1.0-2.0 pt	0.375-0.75 fl oz	Apply to established and newly seeded grasses grown for seed or sod production before the boot stage. Established grasses tolerant to Palouse include bentgrasses, Kentucky Bluegrass, Fescues, Ryegrass, Bermudagrass, St. Augustinegrass and Zoysiagrass. Palouse may also be used on seedling grasses such as Merion, Park, Delta, or common Kentucky Bluegrasses, Pennlawn, Chewings, Illahee or Alta Fescues, Orchard grass, Highland, Seaside or Astoria Bentgrasses, perennial Ryegrasses, Bahiagrass and Zoysiagrass.	Refer to the WEED LIST for a listing of susceptible broadleaf weeds. Optimal control will be attained when weeds are treated in the seedling stage (less than 4-leaf stage, 2 inches in height, or 1 inch in diameter).
Chemigation 2.0 pt only	0.75 fl oz	Apply to established and newly seeded grasses grown for seed or sod production before the boot stage. Apply through automated sprinkler irrigation systems with mechanical transfer loading system only. See MIXING LOADING AND HANDLING INSTRUCTIONS section for complete details. Refer to the list of established grasses that are tolerant to Palouse.	

RESTRICTIONS:

- **DO NOT** allow livestock to graze in treated areas or feed treated grasses, forage, hay, straw, silage, or seed to livestock.
- **DO NOT** apply Palouse to grasses grown for seed or sod production with backpack or hand-held application equipment.
- **DO NOT** apply more than 2.0 pt of Palouse per acre in a single growing year (0.5 lb AI bromoxynil/A; 0.25 gal Palouse/A).
- **DO NOT** plant rotational crops within 30 days following Palouse application.

NON-RESIDENTIAL TURFGRASS

Seedling and Established Non-Residential Turfgrass

RATE		APPLICATION TIMING AND SPECIFIC COMMENTS	
Per ACRE	Per 1000 SQ FT	CROP	WEEDS
1.0-2.0 pt	0.375-0.75 fl oz	Apply to established and newly seeded non-residential turfgrass when weeds are small and actively growing. Established turfgrasses that are tolerant to Palouse include bentgrasses, Kentucky Bluegrass, Fescues, Ryegrass, Bermudagrass, St. Augustinegrass, and Zoysiagrass. Palouse may also be used on seedling grasses such as Merion, Park, Delta, or common Kentucky Bluegrasses, Pennlawn, Chewings, Illahee or Alta Fescues, Orchard grass, Highland, Seaside or Astoria Bentgrasses, perennial Ryegrasses, Bahiagrass and Zoysiagrass.	Refer to the WEED LIST for a listing of susceptible broadleaf weeds. Optimal control will be attained when weeds are treated in the seedling stage (less than 4-leaf stage, 2 inches in height, or 1 inch in diameter).

RESTRICTIONS:

- **DO NOT** exceed a maximum annual application rate of 2.0 pt/A (0.5 lbs AI bromoxynil/A/yr; 0.25 gal Palouse/A).
- **DO NOT** allow livestock to graze in treated areas or feed treated grasses to livestock.
- **DO NOT** apply Palouse to non-residential turf with backpack or hand-held application equipment.

NON-CROPLAND AND INDUSTRIAL SITES

RATE		APPLICATION TIMING AND SPECIFIC COMMENTS	
Per ACRE	Per 1000 SQ FT	CROP	WEEDS
1.0-2.0 pt	0.375-0.75 fl oz	Apply to non-cropland and industrial sites when weeds have emerged and are actively growing.	Refer to the WEED LIST for a listing of susceptible broadleaf weeds. Use adequate spray volumes to ensure thorough coverage. Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter).

RESTRICTIONS:

- **DO NOT** apply more than 2.0 pt of Palouse per acre in a single growing year (0.5 lb AI bromoxynil/A; 0.25 gal Palouse/A).
- **DO NOT** allow livestock to graze in treated areas or feed treated plant material to livestock.
- **DO NOT** apply Palouse to non-cropland and industrial sites with backpack or hand-held application equipment

PRECAUTIONS:

- Addition of surfactant or crop oil concentrate may improve burn down of broadleaf weeds under cool, dry conditions.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE

DO NOT store near fertilizers or seeds. Store at temperatures above 3° F. If allowed to freeze, remix before using.

Store in the dark or in original cardboard box in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of reach of children, preferably in a locked storage area.

DO NOT store above 100° F for extended periods of time. **DO NOT** Store below 20° F. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

PESTICIDE DISPOSAL

Open dumping is prohibited. Pesticide wastes are toxic. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. 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 instructions, contact your State Pesticide or Environmental Control Agency or the hazardous waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

NONREFILLABLE CONTAINERS

Rigid, Nonrefillable containers small enough to shake (i.e. with capacities equal to less than 5 gallons or 50 pounds).

Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

Rigid, Nonrefillable containers that are too large to shake (i.e. with capacities greater than 5 gallons or 50 pounds).

Nonrefillable container. **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. 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. Offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY.**

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, 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 weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of ADAMA. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ADAMA makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of ADAMA is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, ADAMA disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at ADAMA's election, the replacement of product.

Raindrop is a registered trademark of GP Companies, Inc.

Manufactured by:

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)
8601 Six Forks Road, Suite 300
Raleigh, NC 27615

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Palouse™

For the control of certain broadleaf weeds in Corn (Field and Pop)*, Sorghum (Grain and Forage)*, Wheat, Barley, Oats, Rye and Triticale, Seeding Alfalfa, Flax*, Garlic, Onions (Dry Bulb), Mint, Grasses Grown for Seed and Sod Production, Conservation Reserve Program (CRP) Areas, Non-Residential Turfgrass, and Non-Cropland/Industrial Sites.

*Not registered for use in California.

ACTIVE INGREDIENT:

Octanoic acid ester of bromoxynil* (3, 5-dibromo-4-hydroxybenzotrile) 33.52%

OTHER INGREDIENTS: 66.48%

Total: 100.00%

Contains petroleum distillates.

*Bromoxynil octanoate equivalent to 23.02% of bromoxynil or not less than 2.0 pounds of bromoxynil per gallon.

EPA Reg. No. 66222-296

EPA Est. No. 37429-GA-001^{9†};
37429-GA-002^{9‡}; 37429-GA-002^{9§}

Letter(s) in lot number correspond(s) to superscript in EPA Est. No.

KEEP OUT OF REACH OF CHILDREN WARNING/AVISO

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

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

Causes substantial but temporary eye injury. Harmful if swallowed. **DO NOT** get in eyes or clothing. Wear protective eyewear. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

How can we help?
1-866-406-6262

Manufactured by:
Makhteshim Agan of North America, Inc.
(d/b/a ADAMA)
8601 Six Forks Road, Suite 300
Raleigh, NC 27615



HERBICIDE
ADAMA
ESSENTIALS

BROMOXYNIL GROUP 6 HERBICIDE

FIRST AID

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

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. **DO NOT** give any liquid to the person. **DO NOT** induce vomiting unless told to do so by a poison control center or doctor. **DO NOT** give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-250-9291 for emergency medical treatment information.

NOTE TO PHYSICIAN: Contains petroleum distillate.

In case of spills, fires, leaks or accidents call 1-800-535-5053.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

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For additional Precautionary Statements, handling, Directions for Use, (and Storage and Disposal), see inside of this booklet.

PEEL BACK BOOK HERE

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Net Contents

2.5 gallons