

Specimen Label



PastureGard[®] HL

Herbicide

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For control of unwanted broadleaf herbaceous and woody plants in rangeland and permanent pastures, CRP acres, fence rows, and in non-crop areas including non-irrigation ditch banks and around farm buildings using broadcast, foliar, basal bark or cut stump individual plant treatment methods

Not for sale, distribution, or use in Nassau and Suffolk counties in New York State

Active Ingredients:

triclopyr: 3,5,6-trichloro-2- pyridinyloxyacetic acid, butoxyethyl ester	45.07%
fluroxypyr: [(4-amino-3,5-dichloro-6-fluoropyridin-2-yl)oxy]acetic acid, 1-methylheptyl ester	15.56%
Other Ingredients:	39.37%
Total Ingredients	100.00%

Acid Equivalents:	triclopyr - 32.4% - 3.0 lb/gal
	fluroxypyr - 10.8% - 1.0 lb/gal

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-637

CAUTION

Causes Moderate Eye Irritation • Harmful If Swallowed • Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals

Avoid contact with eyes or clothing. Avoid contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE)

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

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Barrier Laminate or Viton
- 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 before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then 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.

First Aid

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person.

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

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

Fluroxypyr is toxic to fish. Drift or runoff from treated areas may be hazardous to aquatic organisms and non-target plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

Triclopyr has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Directions for Use

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

Read all Directions for Use carefully before applying.

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.

Agricultural Use Requirements

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

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

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

- Coveralls
- Chemical-resistant gloves such as Barrier Laminate or Viton
- Shoes plus socks
- Protective eyewear

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.

Entry Restrictions for Non-WPS Uses: Keep unprotected persons out of treated areas until sprays have dried.

Storage and Disposal

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

Pesticide Storage: Store above 28°F or agitate before use.

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

Non-refillable containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

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 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. **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 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 containers larger than 5 gallons:

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

Nonrefillable containers larger than 5 gallons:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

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. **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 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.

Product Information

PastureGard® HL herbicide, an oil soluble, emulsifiable liquid product containing triclopyr and fluroxypyr herbicides, is intended for the control of unwanted broadleaf herbaceous and woody plants in rangeland and permanent pastures, CRP acres, fence rows, and in non-crop areas including non-irrigation ditch banks, and around farm buildings. Individual plant treatments may be made using broadcast, foliar, basal bark, or cut stump application techniques. Broadcast or directed foliar spray treatments must be made to plants that are in full leaf at the time of application. PastureGard HL controls only broadleaf plants that are emerged at the time of application.

Use Precautions and Restrictions

- **Maximum Application Rate:** Do not apply more than 2 quarts per acre of PastureGard HL per annual growing season (0.5 lb a.e. fluroxypyr).
- The combination of PastureGard HL with any other product containing fluroxypyr or triclopyr cannot exceed the maximum of 0.5 lb ae fluroxypyr or 2.0 lb ae triclopyr per acre per annual growing season.

- The state of Arizona has not approved this product for use on plants grown for agricultural/commercial production; specifically on designated grazing areas.
- Do not use on bentgrass, alfalfa, or other desirable forbs, especially legumes such as clover, unless injury or loss of such plants can be tolerated.
- Do not apply directly to the banks of ditches used for irrigation or domestic purposes. Do not apply directly to water (see Environmental Hazards section).
- **Chemigation:** Do not apply this product through any type of irrigation system.
- PastureGard HL is formulated as a low volatile ester. However, the combination of spray contact with impervious surfaces, such as roads and rocks, and increasing ambient air temperatures, may result in an increase in the volatility potential for this herbicide, increasing a risk for off-target injury to sensitive crops such as grapes and tomatoes.
- Where oil is recommended as a diluent in this label, only use oil approved for food or feed production when applications are made to pasture and rangeland, including areas harvested for feed. Applications made directly to cut stumps or basal bark may use diesel, kerosene or a commercial basal carrier.
- 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. EPA, C01-0132C, (W.D. WA). For further information, please refer to <http://www.epa.gov/espplitstatus/wtc/>
- **Not for sale, distribution, or use in Nassau and Suffolk counties in New York State**

Grass, Forage and Tree Tolerance

- **Established grasses are tolerant to this product.**
- **Maximum Application Rate:** Do not apply more than 0.5 lb ae fluroxypyr or 1.5 lb ae triclopyr (2 quarts per acre of PastureGard HL) per annual growing season.
- Do not use on alfalfa, or other desirable forbs, especially legumes such as clover, unless injury or loss of such plants can be tolerated.
- Legumes may be replanted 1 month or more after PastureGard HL application.
- **When Reseeding Grasses:**
 - When PastureGard HL is applied *before reseeding*, do not reseed treated areas for a minimum of three weeks after treatment.
 - When PastureGard HL is applied *following reseeding*, to avoid grass injury, do not apply until grass seedlings are well established as indicated by tillering (usually after 4 true leaves have emerged), development of a secondary root system and vigorous growth.
- **Grasses Grown for Seed:** Do not use from early boot to milk stage if grass is being grown for seed production.
- **Plant-back Restriction:** Only wheat, barley, oats or perennial forage grasses may be planted in treated fields within 120 days following application of PastureGard HL.

Grazing and Haying Restrictions

Grazing or harvesting green forage:

- 1) **Lactating dairy animals:** Do not allow grazing or harvest green forage for lactating dairy animals from treated areas during the same growing season following application.
- 2) **Other Livestock:** No grazing restrictions.

Haying (harvesting of dried forage):

- 1) Do not harvest hay within 14 days after application.

Slaughter Restrictions: Withdraw livestock from grazing treated grass or consumption of treated hay at least 3 days before slaughter. This restriction is applicable to grazing or harvest of hay from treated areas during the same growing season following application.

Avoiding Spray Drift and Run-Off to Surface Water or Adjacent Land

This product should be used strictly in accordance with the run-off and drift precautions on this label in order to minimize off-site exposure and potential effects on aquatic organisms and non-target plants.

- **Avoiding Runoff:** Under certain conditions, this product may have a potential to run-off to surface water or adjacent land. Use of vegetation filter strips or treatment setbacks is recommended along rivers, creeks, streams, wetlands, etc or on the downhill side of treated areas where run-off could occur to minimize water runoff.

Spray Drift: Spray drift produced during application is the responsibility of the applicator and care should be taken to minimize off-target movement of spray during application. A drift control agent suitable for agricultural use may be used with this product to aid in reducing spray drift, but the first choice should be a coarser spray category nozzle set-up. If used, follow all use directions and precautions on the product label.

Do not apply where drift may be a problem due to proximity to susceptible crops or other desirable broadleaf plants. Do not apply this product directly to, or otherwise permit contact with cotton, grapes, peanuts, soybeans, tobacco, vegetable crops, flowers, fruit trees, ornamentals, or other susceptible broadleaf plants. Do not permit spray mist or drift containing this product to contact susceptible plants because even very small quantities of the spray, that may not be visible, can cause severe injury during either active or dormant periods. Do not use in or around greenhouses.

Do not store or handle other agricultural chemicals in the same containers used for this product. Do not apply other agricultural chemicals or pesticides with equipment used to apply this product unless equipment has been thoroughly cleaned.

Ground Application: To minimize spray drift, apply PastureGard HL in a total spray volume of 5 or more gallons per acre using spray equipment designed to produce coarse or larger droplets per ASABE S-572.1 standard. Refer to the spray equipment manufacturer's recommendations for detailed information on nozzle types, arrangement, spacing and operating height and pressure. Spot treatments should be applied only with a calibrated boom to prevent over application. Operate equipment at spray pressures no greater than is necessary to produce a uniform spray pattern. Operate the spray boom no higher than is necessary to produce a uniformly overlapping pattern between spray nozzles. Do not apply with hollow cone-type insecticide nozzles or other nozzles that produce a fine-droplet spray.

Aerial Application

Rangeland and Permanent Pastures: Both fixed wing and helicopter equipment may be used to apply this product on rangeland, permanent pastures and pine plantations, but fixed wing aircraft require additional drift mitigation measures.

To minimize spray drift, apply PastureGard HL in a total spray volume of 3 or more gallons per acre using spray. Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high potential for temperature inversion. Spray drift from aerial application can be minimized by applying a coarse spray at per USDA-ARS/PAASS or nozzle manufacturer's guidelines or by using straight-stream nozzles directed straight back. Do not operate using a spray boom no longer than 75% of wing span or 85% of rotor width. For fixed wing aircraft, maximum speed during application is limited to 140 mph and application height above the vegetation canopy should not exceed 10 ft.

Spray Drift Management (Aerial Application)

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. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 75% the length of the wingspan or 85% of rotor width.
2. Nozzles must always point backward parallel with the air stream and must never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they shall be observed.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Advisory Information section.

Aerial Spray Drift Advisory Information

Importance of Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions.

Controlling Droplet Size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations and is the recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.
- **Boom Length**-For some use patterns, reducing the effective boom length to less than 65% of the wingspan or rotor length may further reduce drift without significantly reducing swath width.
- **Application** - Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

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

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

Woody Plant Control

Applied as directed, PastureGard HL controls or suppresses the following woody plants and vines:

acacia, twisted	lantana †	privet
aspen	locust, black	primrose-willow
birch species	locust, honey	<i>Prunus</i> spp.
blackberry	maple species (except	rose, Cherokee
dogwood	bigleaf & vine †)	rose, multiflora
elbowbush	mesquite	rose, wild
elderberry	milkweed vine †	saltbush (silver myrtle) †
elm (except winged elm)	oak, poison	saltcedar ††, †††
granjeno	oak species	sassafras
grape, wild	Osage-orange	sumac
greenbrier ††	(Bois d'arc or hedge)	tallowtree, Chinese
guajillo	palmetto ††	trumpet creeper †
guava †	peppervine †	Virginia creeper †
hackberry	persimmon, eastern	waxmyrtle (top growth)
hawthorn	persimmon, Texas	willow
huisache	poplar	yaupon
ivy, poison	pricklyash	yucca
kudzu ††		

† Basal or dormant stem applications only
 †† Repeat application may be required.
 ††† Basal or cut stump applications only.

Broadcast Directions

Woody Plant Control: Apply PastureGard HL when conditions are favorable for active growth, but only after leaves are fully expanded and terminal growth has slowed. Application to immature foliage during periods of rapid terminal growth will result in rapid defoliation, but translocation of the herbicide and woody plant control may be reduced. If brush has been mowed, best results are obtained when at least 9 - 12 months of regrowth following mowing is allowed before herbicide application (12 months is recommended in areas where growth conditions such as low rainfall have limited brush regrowth following mowing). Adequate soil moisture before and after treatment as well as healthy foliage at the time of application is important for optimal effectiveness. PastureGard HL will control only broadleaf plants that are emerged at the time of application.

Apply at the specified rate (1.5 – 4 pints per acre, unless otherwise specified) in 4 or more gallons of water per acre by air or 10 or more gallons per acre by ground equipment. Use higher spray volumes to ensure adequate foliar coverage where brush canopy is dense. If applied in tank mix, follow applicable use directions, precautions and limitations on the respective labels (see instructions for tank mixing under Mixing Directions). The optimal rate of PastureGard HL will depend on brush size as well the species. For smaller brush (less than about 6 feet tall), 1.5 – 2 pints/acre will be sufficient. For larger brush and mixed brush canopies, apply 2 - 4 pints/acre.

Surfactant A nonionic surfactant or liquid fertilizer at 1-2 quarts per 100 gallons spray solution (0.25% – 0.5% v/v) may improve weed control for either broadcast or spot application, especially if plants are drought-stressed. To help minimize spray drift, a drift control and deposition aid cleared for application to growing crops is also recommended.

Rates for Specific Woody Plants:

Woody Plants Controlled	Broadcast Rate (pt/acre)	Application Timing:
Ash	1.5 - 4	Active growth
Blackberry	1.5 - 4 †	Apply when leaves are fully expanded and the foliage is dark green, either before first flower or after fruit drop. Application after fruit drop is preferred. Do not treat blackberries in the same year after mowing, shredding, or burning. Even one year after removal of top growth, blackberry stands will be more difficult to control than undisturbed stands and will require retreatment.
Elm	1.5 - 4	Apply late spring through summer to mature foliage
Flame sumac	1.5 - 4	Apply late spring through summer to mature foliage
Hawthorn	1 - 4	Apply late spring through summer to mature foliage
Honeylocust	1.5 - 4	Apply spring through summer to mature foliage
Honeysuckle	1.5 - 4	Apply late spring through summer to mature foliage
Lantana	1.5 - 4	Apply during active growth
Locust	1 - 4	Apply late spring through summer to mature foliage
Oak, blackjack	2 - 4	See below
Oaks	2 - 4	See below
Osage-orange (Bois d'arc or Hedge)	1.5 - 4 †	Apply late spring through summer to mature foliage
Persimmon	1.5 - 4	Apply late summer through fall under good growing conditions
Poplar	1 - 4	Apply late spring through summer to mature foliage
Prickly ash	1.5 - 4	Apply late spring through summer to mature foliage
Sumac	1.5 - 4	Apply late spring through summer to mature foliage
Wax Myrtle	1 - 4	Apply late spring through summer to mature foliage
Willow	1 - 4	Apply late spring through summer to mature foliage

† Use a higher rate in this rate range if brush is large and/or dense.

Maximum Application Rate: Do not apply more than 0.5 lb ae fluroxypyr or 1.5 lb ae triclopyr (2 quarts per acre of PastureGard HL) per annual growing season.

Specific Use Directions

When difficult to control species such as ash, choke cherry, elm, maple or oaks are prevalent, in late season when plant foliage is mature, or when growing conditions are less favorable, use the higher rate in rate range. PastureGard HL may be tank mixed with other herbicides such as Grazon® P+D specialty herbicide or Tordon® 22K specialty herbicide to control additional woody species listed on their respective labels.

Shinnery Oak Suppression: Apply PastureGard HL as a broadcast application at 2 pints per acre for suppression of shinnery oak growing on sandy soils.

Oaks, Post Oak and Blackjack Oak - Regrowth Stands: Apply in the late spring (May) to early summer (June) when oak leaves are fully developed (expanded). Use 5 or more gallons of spray solution per acre by air and 15 to 25 gallons per acre by ground equipment. Lower spray volumes and rates may be used for suppression only. Control will require 2 or more applications.

Individual Plant Treatment Methods

Individual Plant Treatment Method and Target Woody Plant(s)	Application Rate
High-Volume Foliar Treatment of Individual Plants Using Ground Equipment (not for brush greater than 8 feet tall): twisted acacia, aspen, birch, blackberry, elbowbush, elderberry, elm, granjeno, grape, greenbriar, hackberry, hawthorn, lantana, maple, vine milkweed poison oak, post oak, Osage-orange, peppervine, eastern persimmon, poplar, pricklyash, primrose-willow, rose, sumac, trumpetcreeper, Virginia creeper, wax myrtle, willow	-0.5 to 1 gallons of PastureGard HL/100 gallons of spray (0.5-1 % v/v) plus 1 qt of non-ionic surfactant

Specific Use Directions

Optimum timing period is late spring through early fall when plants are actively growing, non-drought stressed, and minimal insect damage or defoliation.

Apply with a backpack or power sprayer using sufficient spray pressure to provide uniform plant coverage without forming a mist and direct spray no higher than tops of target woody plants. Use sufficient spray volume to thoroughly wet all leaves, stems, and root collars. To minimize spray

drift, a drift control additive approved for growing crops is recommended. A dye marker may be added to the spray mixture as a means of marking treated plants.

Maximum Use Rate: For individual plant treatment with high-volume foliar sprays, do not apply more than 0.5 lb ae/acre of fluroxypyr per annual growing season (50 gallons of total spray mixture per acre at the 0.5 gallon/100 gallons rate or 25 gallons of total spray mixture per acre at the 1 gallon/100 gallons rate).

Mixing Chart for High-Volume Foliar Spray (Label rate range is 0.5- to 1 gallon per 100 gallons or 0.5-1% v/v)			
Total Volume of Spray Mixture (gallons)	Amount of Herbicide Required at Specified Rate		Amount of Surfactant (0.25% v/v)
	0.5 gal/100 gal (0.5% v/v)	1 gal/100 gal (1.0% v/v)	
400	2 gal	4 gal	1 gallon
100	2 qt	4 qt	1 qt
50	2 pt	4 pt	1 pt
25	1 pt	2 pt	8 fl oz
14	9 fl oz	18 fl oz	4.5 fl oz
10	6.4 fl oz	12.8 fl oz	3.2 oz
5	3.2 fl oz	6.4 fl oz	1.6 fl oz
3	2 fl oz	4 fl oz	1 fl oz

Individual Plant Treatment Method and Target Woody Plant(s)	Application Rate
Basal Spray (Also Called Stem Spray Method): All woody plants listed.	25% PastureGard HL plus 75% oil (diesel, kerosene, or commercial basal carrier)

Specific Use Directions

Apply to stems less than 6 inches in diameter at any time, including winter months, except when snow or water prevent spraying to ground line. Apply with backpack or hand wand equipment using solid cone or flat fan nozzle at low pressure. Thoroughly wet the base and root collar of all stems to a height of 12 to 15 inches, but not to the point of runoff.

Maximum Use Rate: For basal spray application, do not apply more than 0.5 lb ae/acre of fluroxypyr per annual growing season (2 gallons of total spray mixture per acre).

Individual Plant Treatment Method and Target Woody Plant(s)	Application Rate
Streamline Basal Bark Treatment: mesquite, huisache, red maple, white and red oak, elbowbush, greenbriar, hackberry, pricklyash, yaupon and wild grape, eastern persimmon	25% PastureGard HL plus 75% oil (Diesel, kerosene or commercial basal carrier with 10% penetrant such as Cidekick penetrant)

Specific Use Directions

Apply to stems less than 3 inches in diameter at any time, including winter months, except when snow or water prevent spraying to ground line. Apply with backpack or hand wand equipment using straight stream nozzle at low pressure. Apply the spray in a 2 to 3 inch wide band 12 to 24 inches above the ground. Treat one side of stems less than 3 inches in diameter and a complete band around stems greater than 3 inches in diameter. For best results treat thin juvenile bark above rough thickened bark.

Maximum Use Rate: For streamline basal bark application, do not apply more than 0.5 lb ae/acre of fluroxypyr per annual growing season (2 gallons of total spray mixture per acre).

Individual Plant Treatment Method and Target Woody Plant(s)	Application Rate
Cut Stump Treatment: All woody plants listed.	25% PastureGard HL plus 75% oil (Diesel, kerosene or commercial basal carrier)

Specific Use Directions

Apply to freshly cut stumps. Apply with backpack or hand wand equipment using solid cone or flat fan nozzle at low pressure. Thoroughly wet the sides of the stump, root collar, and outer portion of the cut surface, including the cambium, but not to the point of runoff. Cut stump applications may be made at any time, including winter months, except when snow or water prevent spraying to ground line. **For saltcedar**, use undiluted PastureGard HL. If this rate is used, do not apply more than 1 gallon per acre per growing season.

Maximum Use Rate: For cut stump application (25% PastureGard HL plus 75% oil), do not apply more than 0.5 lb ae/acre of fluroxypyr per annual growing season (2 gallons of total spray mixture per acre).

Individual Plant Treatment Method and Target Woody Plant(s)	Application Rate
Thinline Basal Bark Treatment: Red maple, blackberry, dogwood, red oak and white oak	50% PastureGard HL plus 50% oil (Diesel, kerosene or commercial basal carrier)

Specific Use Directions

Control of susceptible woody plants with stems less than 6 inches in diameter, can be achieved with applications of PastureGard HL applied in a thin stream to all sides of the stems about 6 inches above the base of the plant. The stream should be directed horizontally to apply a narrow band of PastureGard HL around each stem or clump. From 2 to 15 ml of total spray is required for treatment of single stems and from 25 to 100 ml to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required.

Maximum Use Rate: For thinline basal bark application, do not apply more than 0.5 lb ae/acre of fluroxypyr per annual growing season (1 gallon of total spray mixture per acre).

Individual Plant Treatment Method and Target Woody Plant(s)	Application Rate
Growing Point and Leaf Base (Crown) Treatment: Palmetto, yucca	1% solution v/v (1 gal/100 gal)
Specific Use Directions: Thoroughly wet the center of the plant including growing point and leaf bases to the soil surface. Complete coverage of leaves is not necessary.	

Maximum Use Rate: For growing point and leaf base (crown) treatment of yucca, do not apply more than 0.5 lb ae/acre of fluroxypyr per annual growing season (50 gallons of total spray mixture per acre).

Broadleaf Weed Control

Applied as directed, PastureGard HL will control or suppress the following broadleaf weeds:

bedstraw (cleavers)	eveningprimrose, cutleaf	pennycress, field ††
bindweed, field ††	grape species	pigweed species
broomweed, annual	horsetail, field ††	plantain
buckwheat, wild ††	knotweed ††	primrose, evening
burdock	kochia †	puncturevine
camphorweed	ironweed	purslane, common
carrot, wild (top growth)	lambquarters	ragweed, common
chickweed	lespedeza, sericea	ragweed, giant
chicory	lettuce, prickly	ragweed, western
cinquefoil	mallow, common ††	side, prickly
cinquefoil, sulfur	mallow, venice	sneezeweed, bitter
clover	marestail ††	soda apple, tropical
clover, white	marshelder ††	sunflower
cockle, white	maypop (passion flower)	thistle, musk
cocklebur	medic, black	thistle, Russian ††
coffeeweed	Mexicantea	velvetleaf
dandelion (top growth)	Morningglory	vetch
dock, curly	mustard †	violet, wild
dogbane, hemp	nightshade species ††	yarrow
dogfennel		

† Includes herbicide tolerant or resistant biotypes.

†† Indicates suppression. "Suppression" is expressed as a reduction in weed competition (reduction population or vigor) as compared to untreated areas. The degree of weed control and duration of effect may vary with weed size, density, application rate, coverage, and growing conditions before, during and after treatment.

For best results, apply when weeds are small and growing actively before the bud stage. Only weeds emerged at the time of treatment will be controlled. Apply when musk thistles or other biennial species are in the seedling to rosette stage and before flower stalks appear. Refer to the Weeds Controlled section for a listing of susceptible weed species and weeds that may be only partially controlled and require repeat applications and/or use of higher specified rates, even under ideal conditions of application

Application Method and Target Weeds	Broadcast Rate (pt/acre)
Broadcast: Annual broadleaf weeds	0.75 - 1
Broadcast: Biennial and perennial broadleaf weeds	1 - 1.5
Spot (Small Area) Treatment: broadleaf weeds	Apply at rate comparable to "broadcast" See Instructions for Spot Treatment

Maximum Use Rate: For broadcast or spot application, do not apply more than 0.5 lb ae per acre of fluroxypyr (4 pt/acre of PastureGard HL) per annual growing season.

Specific Use Directions

Kochia: Apply 0.75 – 1.0 pints per acre plus crop oil when kochia is less than 18 inches tall.

Sericea lespedeza: Apply 0.75 pints per acre after maximum foliage development, when plants are 12 –15 inches tall, in the late spring to early summer prior to bloom. Increase rate to 1.5 pints per acre for dense stands or later stages of growth. Use a minimum total spray volume of 10 gallons per acre for ground application, or a minimum of 3 gallons per acre by air. Higher application volumes are preferred when possible.

Spot application: Mix 3 pints PastureGard HL per 100 gallons of water (0.5 fl oz PastureGard HL per gallon of water). Apply the spray uniformly and thoroughly wet the *Sericea lespedeza* foliage. Tank mixing of PastureGard HL with other herbicides is not required to control *Sericea lespedeza*.

Tropical Soda Apple: Apply 1.5 - 2 pints per acre when tropical soda apple plants reach the first flower stage. For best results, apply in a total spray volume of 40 gallons per acre using ground equipment. An agricultural surfactant may be added at the manufacturer's recommended rate to provide more complete wetting and coverage of the foliage. Spot treatments may be used to control sparse plant stands. For spot treatment use a 0.5 to 0.75% v/v solution of PastureGard HL in water (2 to 3 quarts of PastureGard HL in 100 gallons total spray mixture) and spray the entire plant to completely wet the foliage.

In Florida, control of tropical soda apple may be improved by using the following management practices:

- Mow plants to a height of 3 inches every 50 to 60 days or whenever they reach flowering. Continue the mowing operation through April.
- In late May to June (50 to 60 days after the April mowing) apply PastureGard HL as a broadcast treatment as specified above.
- Use spot treatment as specified above to control any remaining plants or thin stands of plants that germinate following a broadcast treatment.

Small Area Treatments

Treatments to a small area may be applied with a calibrated boom or with hand sprayers according to the following directions:

Hand-Held Sprayers: Hand-held sprayers may be used for spot (small area) applications of PastureGard HL. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on a treatment area of 1,000 sq ft. Mix the amount of PastureGard HL (fl oz or ml) corresponding to the desired broadcast rate in the amount of spray volume needed to cover 1000 sq ft. To calculate the amount of PastureGard HL required for larger areas, multiply the table value (fl oz or ml) by the number of thousands of sq ft of area to be treated. An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

Rate Conversion Table for 1000 sq feet:

0.5 pt/acre	1 pt/acre	1.5 pt/acre	2 pt/acre	3 pt/acre	4 pt/acre
0.18 fl oz (5 ml)	0.37 fl oz (11 ml)	0.55 fl oz (17 ml)	0.73 fl oz (22 ml)	1.10 fl oz (33 ml)	1.47 fl oz (44 ml)

† Conversion factors: 1 pt = 16 fl oz; 1 fl oz = 29.6 (30) ml

Conservation Reserve Program (CRP) Acres

Specific Use Directions

Follow applicable use directions for the target weed or woody plant species to be controlled. For program lands such as CRP, consult program rules to determine whether grass or hay may be used. The more restrictive requirements of the program rules or this label must be followed. Use PastureGard HL on CRP acres only after perennial grasses are well established (see precaution for newly seeded grasses in Use Precautions and Restrictions section).

Restrictions: When applying to CRP lands, follow all applicable state and federal regulations. Follow the most severe grazing restriction imposed by the pesticide label or by the USDA Acreage Conservation Reserve Program. After that time period, follow local (CRP) guidelines regarding cropping and haying restrictions. Do not use PastureGard HL if damage or loss of existing legumes or other desirable broadleaf plants cannot be tolerated.

Mixing Directions

PastureGard HL will readily mix with oil or can be mixed with water to form an emulsion. For water mixtures, an agricultural surfactant at the manufacturer's recommended rate may be added to the spray mixture to provide improved wetting of foliage. For foliar applications, a drift control and deposition aid cleared for application to growing crops is recommended.

Water Dilutions: A water-based spray solution is recommended for broadcast and high volume foliar. Add PastureGard HL to 3/4 of the required amount of water and while agitating bring the spray mixture to the require volume. Add any surfactants or drift control agents to the mixture only after adding PastureGard HL. A nonionic surfactant or liquid fertilizer at 1-2 quarts per 100 gallons spray solution (0.25% – 0.5% v/v) may improve weed control for either broadcast or spot application, especially if plants are drought-stressed. To help minimize spray drift, a drift control and deposition aid cleared for application to growing crops is also recommended.

Oil Mixture Sprays for Basal Treatment: When preparing oil-based spray mixtures, use either diesel fuel, No. 1 or No. 2 fuel oil, kerosene or a commercially available basal oil. Substitute other oils or diluents only as recommended by the oil or diluent's manufacturer. When mixing with a basal oil or other oils or diluents, read and follow the use directions and precautions on the manufacturer's product label. Add PastureGard HL to the required amount of oil in the spray tank or mixing tank and mix thoroughly. If the mixture stands over 4 hours, reagitiation is required.

Tank Mixing

PastureGard HL may be applied in tank mix combination with labeled rates of other herbicides provided (1) the tank mix product is labeled for the timing, method of application and use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed specified application rates. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable use rate for the active ingredient.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of PastureGard HL and other herbicides or spray carriers. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Cleaning Instructions for Spray Equipment

To avoid injury to desirable plants, equipment used to apply PastureGard HL should be thoroughly cleaned before reusing to apply any other chemicals.

1. Rinse and flush application equipment thoroughly after use. Flush the entire system at least three times with water, and dispose of rinse water in non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 min.). Let the solution stand for several hours, preferable overnight.
3. Flush the solution out the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Nozzles and screens should be removed separately.

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