Specimen Label

RESTRICTED USE PESTICIDE

May Injure (Phytotoxic) Susceptible, Non-Target Plants. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Commercial certified applicators must also ensure that all persons involved in these activities are informed of the precautionary statements.

GROUP	4	HERBICIDE

CORTEVA™ agriscience

Graslan® L

HERBICIDE

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For the control of broadleaf annual and perennial weeds, and certain woody plants and vines on

- **Conservation Reserve Program (CRP), rangeland and permanent grass pastures;**
- **fallow cropland;**
- **forest sites, conifer plantations;**
- **non-crop areas for example, airports, barrow ditches, communication transmission lines, electrical power and utility rights-of way, fencerows, gravel pits, industrial sites, military lands, mining and drilling areas, non-irrigation ditchbanks, oil pads, parking sites, petroleum tank farms, pipelines, railroads, roadsides, storage areas, substations, storm water retention areas, unimproved rough turf, vacant lots; and**
- **natural areas (open spaces) for example prairie management areas, wildlife openings and wildlife habitat and management areas;**
- **including grazed areas on all of these listed sites**

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

Active Ingredients:

picloram: 4-amino-3,5,6-trichloro-2-pyridinecarboxylic acid triisopropanolamine salt	14.44%
2,4-D: (2,4-dichlorophenoxy) acetic acid, choline salt	43.62%
Other Ingredients	41.94%
Total	100.00%

Acid equivalents:
picloram: 4-amino-3,5,6-trichloro-2-pyridinecarboxylic acid – 8.06% - 0.81 lb/gal
(2,4-dichlorophenoxy) acetic acid - 29.75% - 3 lb/gal

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-655

Keep Out of Reach of Children

WARNING

Causes Substantial but Temporary Eye Injury • Harmful If Swallowed

Do not get in eyes or on clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils.

All mixers, loaders, applicators, flaggers and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear (goggles, face shield, or safety glasses)
- Chemical-resistant gloves, when applying with any handheld nozzle or equipment, mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.
- Chemical resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate

See Engineering Controls for additional requirements.

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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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.

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)].

User Safety Recommendations:

Users should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove and wash contaminated clothing before reuse.
- 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.

Environmental Hazards

This pesticide is toxic to some plants at very low concentrations. This pesticide may be toxic to fish and aquatic invertebrates. Non-target plants may be adversely affected if pesticide is allowed to drift from areas of application. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

Picloram is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Picloram can contaminate surface water through spray drift. Under some conditions, picloram may also have a high potential for runoff into surface water (primarily via dissolution in runoff water). These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

2,4-D 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. Application around a cistern or well may result in contamination of drinking water or groundwater.

Directions for Use

RESTRICTED USE PESTICIDE

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.

Do not apply this product through any type of irrigation system.

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 48 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 made of any waterproof material
- Shoes plus socks
- Protective eyewear (goggles, face shield, or safety glasses)

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: Do not enter or allow people (or pets) to enter the treated area until sprays have dried.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: If exposed to subfreezing temperatures (below 32° F), the product should be warmed to at least 40° F and agitated thoroughly before using.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. 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.

Nonrefillable 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 Disposal: 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 and, if possible, spray all sides while adding water. If practical, 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 other procedures approved 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.

Resistance Management Guidelines

- Development of plant populations resistant to this herbicide mode of action is usually not a problem on rangeland, permanent grass pastures, Conservation Reserve Program (CRP), or non-cropland sites since these sites receive infrequent pesticide applications.
- In croplands, use an effective integrated pest management (IPM) program, integrating tillage or other mechanical methods, crop rotation or other cultural control methods into weed control programs whenever practical.
- Similar looking biotypes of a given weed species occurring in a treated area may vary in their susceptibility to a herbicide. Application of a herbicide below its labeled rate may allow more tolerant weeds to survive and a shift to more tolerant biotypes within the treated area.
- Where identified, spreading of resistant weeds to other fields may be prevented by cleaning harvesting and tillage equipment before moving to other areas and by planting weed-free seed.
- Contact your extension specialist, certified crop consultant, or Dow AgroSciences representative for the latest resistance management information.

Product Information

Graslan® L herbicide is a water-soluble liquid product containing picloram and 2,4-D. Use Graslan L for the control of broadleaf annual and perennial weeds, and certain woody plants and vines on Conservation Reserve Program (CRP), rangeland and permanent grass pastures, fallow cropland, forest sites, conifer plantations, and non-crop areas for example, airports, barrow ditches, communication transmission lines, electrical power and utility rights-of way, fencerows, gravel pits, industrial sites, military lands, mining and drilling areas, non-irrigation ditchbanks, oil pads, parking sites, petroleum tank farms, pipelines, railroads, roadsides, storage areas, substations, storm water retention areas, unimproved rough turf, vacant lots; and natural areas (open spaces) for example prairie management areas, wildlife openings and wildlife habitat and management areas; including grazed areas on all of these listed sites.

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

Tank Mixing: Use Graslan L at rates of 1.25 to 5.3 pints per acre to control broadleaf weeds and at rates of 0.67 to 1.3 gallons per acre to control woody plants and vines. Graslan L may be tank mixed with Garlon® 4 Ultra, Garlon 3A, Vastlan, or Remedy® Ultra herbicides, 2,4-D low-volatile esters or other herbicides registered for sites listed on this label to control mixed woody plant and vine species. When tank mixing, observe all precautions, directions, restrictions, and limitations on both products' labels. In all cases use the amounts specified in enough water to give thorough and uniform coverage of the plants to be controlled.

Note: Graslan L does not mix readily with oil. To enhance foliage wetting and coverage, an approved non-ionic agricultural surfactant may be added to the spray mixture as specified by the surfactant label. Use the higher concentrations of surfactant in the spray mixture when applying lower spray volumes per acre.

Herbicidal effects of Graslan L occur primarily from uptake by plant foliage and translocation throughout the plant, however, secondary herbicidal activity may occur from soil uptake of picloram. Very small amounts can kill or damage broadleaf plants. To prevent damage to crops and other desirable plants, carefully follow all directions and precautions.

Use Precautions

Observe any special use and application restrictions and limitations, including method of application and permissible areas of use as required by state or local regulations. When used in tank mix combination with other products, it is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Application Rate Ranges: Use higher rates in areas with dense weed populations or for longer residual control. For best results, the lower rate may be used only when environmental conditions are favorable for plant growth and when the plants are in the specified growth stage. Compared to results obtained with the higher rate, a lower rate may be slower to show activity, provide a lower level of control, and may require retreatment.

For all 2,4-D containing products applied on noncrop use sites, do not apply more than 2 lb ae per acre per year to herbaceous plants, or 4 lb ae per acre per year to woody plants.

See appropriate section under "Application Directions" for specific precautions and restrictions.
Be sure that use of this product conforms to all applicable regulations.

Total use of Graslan L must not exceed 5 quarts per acre per year on rights-of-way and other non-crop areas. No more than 5 quarts per acre may be applied within a period of 2 years on forest sites. See appropriate section under "Application Directions" for specific precautions and restrictions.

Fallow Cropland (Not Rotated to Broadleaf Crops): Do not apply more than 0.25 lb a.e. picloram (2.5 pint of Graslan L) per acre as a broadcast treatment per annual growing season.

On areas treated with this product, do not rotate to crops intended for food or feed use, other than range or pasture grasses, rye, forage sorghum, sudangrass, wheat, barley or oats not underseeded with a legume. **Do not move treated soil, or use treated soil for growing other plants** until soil residues of picloram are no longer detectable as indicated by an adequately sensitive bioassay or analytical test.

Established grasses are tolerant to this product, but newly seeded grasses may be injured until well established as indicated by tillering, development of a secondary root system and vigorous growth (see Planting Grasses Section).

Graslan L may **suppress certain established grasses** such as smooth bromegrass, Willman's lovegrass and buffalograss. However, subsequent grass growth should be improved by release from weed competition. Smooth bromegrass and Willman's lovegrass grown for seed may be sensitive to this product if applied under adverse growing conditions (moisture stress).

Avoid injury to newly planted conifers. Conifer planting intervals vary. Pines planted sooner than 6 months after treatment with Graslan L may be injured in the southern U.S. or west of the Cascade Mountains in the Pacific Northwest. Other conifers, west of the Cascade Mountains, may be injured if planted sooner than 8 to 9 months after treatment. For all conifers, the waiting period treatment and planting is 11 to 12 months in the area between the Cascade and Rocky Mountains and 8 to 9 months in the lake States and the Northeastern U.S.

Use 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.

Chemigation: Do not apply this product through any type of irrigation system.

Do not rotate to food or feed crops on treated land if they are not registered for use with picloram or until an adequately sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.

Grazing Restrictions:

- There are no grazing restrictions for non-lactating dairy animals or other livestock **including horses, sheep, goats, and other animals in the treatment area.**
- Do not allow lactating dairy animals to graze treated areas within 7 days after application.
- Do not harvest grass cut for hay from treated areas for 30 days after application.
- Meat animals must be withdrawn from treated forage at least 3 days before slaughter

Do not apply Graslan L in residential or commercial areas or near ornamental trees and shrubs. Untreated trees can be affected by root uptake of the herbicide through movement from the top soil or by excretion of the product from the roots of nearby treated trees into the soil. Do not apply Graslan L within the area occupied by roots of desirable trees, unless such injury can be tolerated.

Do not apply this product to lawns, turf, ornamental plantings, urban walkways, driveways, tennis courts, golf courses, athletic fields, commercial sod operations, or other high-maintenance, fine turfgrass areas, or similar areas

Do not spray pastures if the injury to existing forage legumes cannot be tolerated. Graslan L may injure or kill legume plants. Forage legumes may be less sensitive to the herbicide after the seed has set and plant growth is mature. Seeding of legumes may not be successful if made within one year of application.

Do not transfer livestock from treated grazing areas to broadleaf crop areas without first allowing 7 days of grazing on untreated grass pasture. Otherwise, urine may contain enough picloram to cause injury to sensitive broadleaf plants.

Do not use grass or hay or plant materials from treated areas or manure from animals being fed treated forage or hay for composting or mulching of desirable, susceptible broadleaf plants. To promote herbicide decomposition, plant residues should be evenly incorporated in the surface soil or burned. Breakdown of picloram and 2,4-D in plant residues or manure in soil is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.

Do not use manure from animals grazing treated areas or that have consumed forage or eaten hay within the previous 7 days on land used for growing broadleaf crops, ornamentals, orchards or other susceptible, desirable plants, or in compost, mulch or mushroom spawn. Manure may contain enough picloram to cause injury to susceptible plants.

Do not mix with dry fertilizer.

Do not contaminate water intended for irrigation or domestic purposes. To prevent injury to crops or other desirable plants, do not treat or allow spray drift or run-off to fall onto banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes. Do not apply to snow or frozen ground.

Do not use on sub-irrigated land.

Do not apply or otherwise permit Graslan L or sprays containing Graslan L to contact crops or other desirable broadleaf plants, including but not limited to alfalfa, beans, cotton, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit plants, ornamentals and shade trees.

Do not make application when circumstances favor movement from treatment site.

Spray Drift Management

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

Droplet Size
When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.

When applying sprays that contain 2,4-D mixed with other active ingredients that require a Medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Wind Speed
Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the treated field.

Temperature Inversions
If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable

atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or unstable atmospheric conditions.

Susceptible Plants
Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, fruit trees, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco. Small amounts of spray drift that may not be visible may injure susceptible broadleaf plants.

Other State and Local Requirements
Applicators must follow all state and local pesticide drift requirements regarding application of 2,4-D herbicides. Where states have more stringent regulations, they must be observed.

Equipment
All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Aerial Application
The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety. This requirement does not apply to forestry or rights-of-way applications.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this by adjusting the path of the aircraft upwind.

Ground Boom Application
Do not apply with a nozzle height greater than 4 feet above the crop canopy.

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.

Application Directions

CRP, Rangeland and Permanent Grass Pastures

Broadcast Foliar Application (Ground or Aerial)
Unless otherwise specified, apply in water alone or in an oil-water emulsion in a total spray volume of 10 to 40 gallons per acre using ground equipment or 1 or more gallons per acre by aerial application. If aerially applied, results will be more consistent for spray volumes of 2 or more gallons per acre. Good coverage is essential. For aerial application, swath width may not exceed 1 1/4 times the wingspan of the aircraft.

To provide more complete wetting and coverage of the foliage, a non-ionic surfactant may be used at specified rates. Use a drift control additive for drift reduction and improved deposition.

Restrictions
- **Preharvest Interval:** Do not cut forage for hay within 30 days of application. 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.
- **Maximum seasonal rate:** Apply no more than 10 pints/acre per year
- Do not make more than two applications per year
- Do not apply within 30 days of previous application
- If grass is to be cut for hay, Agricultural Use Requirements for the Worker Protection Standard are applicable

Section I: Control of Broadleaf Weeds and Woody Plants in Rangeland and Permanent Grass Pastures in the Southwest, Southeast, and Mid-Atlantic States

2/3 to 1 1/4 Pints/Acre or 2 to 2 2/3 Pints/Acre: Apply at the rate indicated by stage of growth to control the following woody plants or broadleaf weeds:

Weed Species	Specific Use Directions
annual broomweed, bitter sneezeweed, bitterweed, buffalo bur, bull thistle, bursage (bur ragweed), camphor weed, cocklebur, common ragweed, croton, horseweed, lambsquarters, pigweed, prickly lettuce, smartweed, sunflower, tasajillo, wild carrot	**Early Season: Apply at a rate of 2/3 to 1 1/4 pt/acre** in early to mid spring when weeds are less than 3 inches tall. Rates in the lower end of the rate range are effective only when weeds are less than 2 inches tall and conditions are favorable for plant growth. **Mid to Late Season: Apply at a rate of 2 to 2 2/3 pt/acre** in late spring to early summer when weeds are 3 inches tall to early flowering. Use higher rate when plants are in the bud to flowering stage or under stress from heat or drought.

1 1/4 to 2 2/3 Pints/Acre: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:

Weed or Brush Species	Specific Use Directions
aster, heath	Apply prior to bud stage when actively growing.
aster, spiny (Mexican devilweed)	Apply prior to bud stage when actively growing.
bee plant, Rocky Mountain	Apply prior to bud stage when actively growing.
bindweed, hedge	Apply prior to bud stage when actively growing.
blackberry	Tank-mix 1 1/4 pints per acre of Graslan L with Garlon® 4 Ultra or Remedy® Ultra herbicide plus surfactant. Apply in during or after bloom (not before) when the foliage is fully expanded. 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. Treat the regrowth late in the following season for best results.
buckwheat, climbing false	Apply prior to seed development when actively growing.
buckwheat, wild	Apply prior to seed development when actively growing.
bullnettle, western	Apply in spring when plants begin to flower.
bundleflower, Illinois	Apply prior to bud stage when actively growing.
burdock, common	Apply prior to bud stage when actively growing.
buttercup	Apply in early spring prior to bud stage.
chickweed, mouseear	Apply prior to bud stage when actively growing.
chicory	Apply from rosette stage to early bud stage when actively growing.
coneflower, upright prairie	Apply when plants are to 6 inches tall, but before flowering.
common goldenweed, Drummond's goldenweed (*Isocoma* spp.)	Apply in the spring (April-June) when favorable growing conditions result in substantial canopy development. Thorough and uniform coverage is essential. Use higher spray volumes (20-25 gpa for ground and 4-5 gpa for aerial equipment). Use of a non-ionic surfactant or oil-water emulsion is recommended (see Mixing Instructions).
curly dock	**Early Season:** Apply 1 1/4 pints per acre prior to bolting stage of growth. **Mid-to-Late Season: Apply at a rate of 2 to 2 2/3 pt/acre** from bolting to bud stage.

Section I: Control of Broadleaf Weeds and Woody Plants in Rangeland and Permanent Grass Pastures in the Southwest, Southeast, and Mid-Atlantic States (Cont.)

1 1/4 to 2 2/3 Pints/Acre: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:	
Weed or Brush Species	**Specific Use Directions**
devil's-claw	Apply prior to flowering when actively growing.
dogfennel (cypressweed)	Apply when plants are from 6 to 24 inches tall, but before flowering. Increase rate within the rate range as season progresses and plants become larger.
eriogonum, annual	Apply prior to bud stage when actively growing.
fleabane, rough	Apply prior to bud stage when actively growing.
gray goldaster narrowleaf goldaster	Apply in the spring during the bud stage (pre-bloom) using an oil-water emulsion spray. Thorough coverage is essential.
goldenrod, Missouri	Apply prior to bud stage when actively growing.
goldenweed, common, goldenweed, Drummond's (*Isocoma* spp.)	Apply in the spring (April-June) when favorable growing conditions result in substantial canopy development. Thorough and uniform coverage is essential. Use higher spray volumes (20-25 gpa for ground and 4-5 gpa for aerial equipment). Use of a non-ionic surfactant or oil-water emulsion is recommended (see Mixing Instructions).
hemlock, poison	Apply from rosette stage in spring or fall up to 36" tall.
hemlock, water (common)	Apply from rosette stage in spring or fall up to bud stage.
horsenettle, Carolina	Apply 1 1/4 pints per acre when plants are 4-6 inches tall. At 1 1/4 pints per acre retreatment may be necessary for acceptable control. Apply 2 to 2 2/3 pints per acre when flowering or for longer residual control of later emerging plants and greater stand reduction the following year.
horehound	Apply during active growth.
jimsonweed	Apply prior to bud stage when actively growing.
morningglory, ivyleaf	Apply prior to bud stage when actively growing.
mugwort	Apply prior to bud stage when actively growing.
nightshade, silverleaf	Apply 1.25 pints per acre when plants are 4-6 inches tall. Apply 2 to 2 2/3 pints per acre when flowering or for longer residual control of later emerging plants and greater stand reduction the following year. Retreatment is necessary for total control.
pennycress, field	Apply when plants are to 6 inches tall, but before flowering.
plantain, buckhorn	Apply prior to bud stage when actively growing.
pricklypoppy, annual	Apply prior to bud stage when actively growing.
puncturevine	Apply prior to flowering when actively growing.
ragweed, common, giant, lanceleaf and western	Use lower rates in rate range when weeds no more than 2 inches tall and conditions are favorable for plant growth. Use higher rates when weeds are from 3 inches tall to early flowering.
sagebrush, sand	Apply when new terminal growth reaches 6 - 12" and before average daytime temperature reaches 95 degrees F. Use low rate only in early season.
snow-on-the-mountain	Apply prior to bud stage when actively growing.
sowthistle, spiny (prickly)	Apply prior to bud stage when actively growing.
stickweed	Apply 1 1/4 to 2 pt/acre prebloom.
thistles, biennial: including bull, musk, plumeless or scotch	Apply 1 1/4 pt/acre at rosette stage. Apply 2 to 2 2/3 pt/acre in mid to late season from bolting to bud stage.
vervain, blue vervain, hoary	Apply when plants are 6 inches tall to early flowering. Increase rate within the rate range as season progresses and weeds mature.
vetch, hairy	Apply prior to bud stage when actively growing.
wingstem	Apply 1 1/4 to 2 pt/acre prebloom.
yankeeweed	Apply when plants are 8 to 10 inches tall.

2 to 2 2/3 Pints/Acre: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:	
Weed or Brush Species	**Specific Use Directions**
marshelder (sumpweed)	Apply in early season when weeds are less than 4 inches tall. Older plants require higher rates. Thorough and uniform coverage is essential. Use higher spray volumes (20-25 gpa for ground and 5 or more gpa for aerial equipment
mesquite and oak sprouts (suppression of regrowth):	Delay applications of Graslan L for weed control until the foliage of regrowth brush in the treatment area is fully expanded and turned from light to dark green.
milkweed	Apply 2 2/3 pt/acre to actively growing milkweeds less than 4 inches tall. Add a surfactant at the manufacturer's rate to improve wetting of foliage.
mullein, common	Apply 2 2/3 pints per acre during the rosette stage in spring or fall prior to bolting. Add a surfactant at the manufacturer's rate to improve wetting of foliage.
poisonous plants such as: groundsel (*Senecio* spp.), garbancillo, (Wooton loco) and Woolly loco	Apply in fall or winter when moisture conditions are favorable. Because locoweeds are difficult to wet, use of a surfactant (0.25-0.5% vol/vol) or oil-water emulsion is recommended (see Mixing Instructions). **Herbicide treatment may increase palatability of poisonous plants. Do not graze treated areas until the foliage of poisonous plants is dried and will not be eaten by livestock.**
thistle, wavyleaf	Apply from rosette to late bolt stage.
tropical soda apple	Apply when plants are beginning to flower.

Section I: Control of Broadleaf Weeds and Woody Plants in Rangeland and Permanent Grass Pastures in the Southwest, Southeast, and Mid-Atlantic States (Cont.)

5 Pints/Acre: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:	
Weed or Brush Species	**Specific Use Directions**
cactus, pricklypear or cholla	Make ground broadcast application in the spring or early summer to control a broad spectrum of broadleaf weeds in addition to pricklypear.
Chinese tallowtree	Apply in spring or fall when conditions are favorable for plant growth. Thorough and uniform spray coverage is required. Use higher spray volumes (20-25 gpa for ground and 5 or more gpa for aerial equipment). Use of a non-ionic surfactant or oil-water emulsion is recommended (see Mixing Instructions).
Macartney rose multiflora rose	Apply in spring or fall when conditions are favorable for plant growth. Thorough and uniform spray coverage is essential. Use higher spray volumes (20-25 gpa for ground and 5 or more gpa for aerial equipment). Use of a non-ionic surfactant or oil-water emulsion is recommended (see Mixing Instructions). Avoid application within 9-12 months after mowing or when plants have a high percentage of new growth. Poor control will result if plants are less than 3 ft tall.
locust (honey and black) wild plum	Apply in spring when leaves are fully expanded and mature. Use a surfactant at 0.25-0.5% vol/vol.

Section II: Control of Broadleaf Weeds and Woody Plants in Rangeland and Permanent Grass Pastures in the North and Northwestern U.S. including Colorado, Idaho, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming

For best results in terms of forage response, desirable forage grasses should be present in the area to be treated in sufficient density to provide competition to lessen weed re-establishment following treatment. Additionally, good grazing management practices are recommended, particularly in the year following treatment, to allow forage grass density to increase.

Application Rates: Use higher rates in areas with dense weed populations or for longer residual control. For best results, the lower rate may be used only when environmental conditions are favorable for plant growth and when the plants are in the specified growth stage. Compared to results obtained with the higher rate, a lower rate may be slower to show activity, provide a lower level of control, and may require retreatment.

1 1/4 to 2 2/3 Pints/Acre: Apply at the indicated stage of growth to control the following broadleaf plant species. Increase rate within rate range as growing season progresses:	
Weed or Brush Species	**Specific Use Directions**
absinth wormwood annual broomweed	Apply when actively growing in spring or early summer.
biennial thistles, such as bull, musk, plumeless or scotch	Apply 1 1/4 pt/acre at rosette stage. Apply 2 to 2 2/3 pt/acre to bolted thistle, but apply before early bud stage.
broom snakeweed	Apply after full leaf development to early bloom stage when plants are actively growing.
curly dock	Apply 1 1/4 pt/acre early season prior to bolting. Apply 2 to 2 2/3 pt/acre in mid to late season from bolting to early flower.
curlycup gumweed	Apply when new growth and seedlings have fully emerged before bloom stage.
fringed sagebrush	Apply a minimum of 2 pt/acre after seed stalk elongation and early flowering (mid - late June) and throughout the summer under good growing conditions.
goldenrod	Apply prior to bud stage during active growth.
hemp (marijuana) hemlock, poison	Apply from rosette stage in spring or fall up to 36” tall.
hemlock, water (common)	Apply from rosette stage in spring or fall up to bud stage.
ironweed, western	Apply 1 1/4 to 2 pt/acre prior to bud stage during active growth. A surfactant is recommended.
locoweeds, such as silky crazyweed (white point loco) and lambert crazyweed	Apply from early bud to early bloom stage. Herbicide application may increase palatability of these poisonous plants. Do not graze treated areas until after the toxic plants have dried up. Use the higher rate range to provide greater reduction of poisonous plants.
phlox, hoods	Apply during active growth.
plains pricklypear	Apply when the majority of plants are in the flower stage. The lower rate will provide a partial stand reduction. More complete control may be obtained with the higher rate. Treatment response is very slow and may continue for 2 years or longer.
ragweed, common, giant, lanceleaf and western	Use the lower rate in early season when weeds are no more than 2 inches tall. Use the higher rate when weeds range from 3 inches tall to early flowering, when conditions are favorable for plant growth.
thistles, biennial: including bull, musk, plumeless or scotch	Apply 1 1/4 pt/acre at rosette stage. Apply 2 to 2 2/3 pt/acre in mid to late season from bolting to bud stage.
vervain, blue and hoary	Apply when plants are 6 inches tall to early flowering. Increase rate within the rate range as season progresses and plants mature.
wormwood, Louisiana and absinth	Apply during active growth prior to woody stem development.
yarrow	Apply 1 1/4 pt/acre prior to bud stage. A surfactant is recommended.

2 2/3 Pints/Acre: Apply at the indicated stage of growth to control the following broadleaf weed species:	
Weed or Brush Species	**Application Timing**
dense clubmoss	Apply in early summer with a surfactant at 0.25% v/v.
geyer larkspur	Apply from rosette to flower bud formation.
hairy goldenaster	Apply at bloom stage during active growth.
houndstongue	Apply to rosettes in late fall or early summer

Section II: Control of Broadleaf Weeds and Woody Plants in Rangeland and Permanent Grass Pastures in the North and Northwestern U.S. including Colorado, Idaho, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming (Cont.)

2 2/3 Pints/Acre: Apply at the indicated stage of growth to control the following broadleaf weed species:

Weed or Brush Species	Application Timing
larkspur, plains	Apply prior to bud stage when actively growing.
licorice, wild	Apply at bloom stage, but before bur formation.
loco, woolly	Apply from bolting to early bloom. Herbicide application may temporarily increase palatability of this poisonous plant. Do not graze treated areas until toxic plants have dried up.
milkweed, common	Apply at bud stage when actively growing.
mullein, common	Apply during rosette stage in spring or fall prior to bolting. Add a surfactant at the manufacturer's rate to improve wetting of foliage.
oxeye daisy	Apply 2 to 2 2/3 pt/acre when all plants have emerged to late flowering.
pussytoes	Apply prior to bud stage when actively growing. Use a surfactant at the manufacturer's rate to improve wetting of foliage.

5 Pints/Acre: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:

Weed or Brush Species	Specific Use Directions
Macartney rose multiflora rose	Apply in spring or fall when conditions are favorable for plant growth. Thorough and uniform spray coverage is essential. Use higher spray volumes (20-25 gpa for ground and 5 or more gpa for aerial equipment). Use of a non-ionic surfactant or oil-water emulsion is recommended (see Mixing Instructions). Avoid application within 9-12 months after mowing or when plants have a high percentage of new growth. Poor control will result if plants are less than 3 ft tall.
locust (honey and black) wild plum	Apply in spring when leaves are fully expanded and mature. Use of a surfactant (0.25-0.5% vol/vol) is recommended.

High-Volume Foliar Applications

Spray to thoroughly wet foliage and stems. Use an approved agricultural surfactant. Do not use more than 5 pints of Graslan L (0.5 lb of picloram) per acre. To minimize spray drift, use lowest possible pressure and coarse spray to achieve good coverage. Keep sprays no higher than brush tops. Use of an approved drift control agent is recommended to reduce the potential for spray drift.

5 Pints/Acre/100 Gallons of Spray: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:

Weed or Brush Species	Specific Use Directions
blackberry, elm, granjeno, locust ,maple, oaks, sweetgum, sumac	Tank mix Graslan L with Garlon 4 Ultra or Remedy Ultra and apply in late spring to early summer when leaves are fully expanded and mature. Use of a surfactant (0.25-0.5% vol/vol) is recommended. Spray to thoroughly wet foliage. For best results on blackberry, treat during or after bloom.
annual broomweed, bitterweed, bitter sneezeweed, bullnettle, bursage (bur ragweed), bull thistle, buffalo bur, camphorweed, cocklebur, common ragweed, croton, gray goldaster, lanceleaf ragweed, marshelder (sumpweed), musk thistle, narrowleaf goldaster, prickly lettuce, smartweed, sunflower, wild carrot, silverleaf nightshade, tasajillo, upright prairie cone flower, western horsenettle, western ragweed, yankeeweed	Apply when target weeds are 2-3 inches tall until early flowering.
flameleaf sumac honeylocust,	Apply in spring when leaves are fully expanded and mature. Use of a surfactant (0.25-0.5% vol/vol) is recommended. Spray to thoroughly wet foliage.
Tropical soda apple	Apply when plant begin to flower.

5 Pints/100 Gallons of Spray: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:

Brush Species	Specific Use Directions
Macartney rose multiflora rose	Apply in spring or fall when conditions are favorable for plant growth. High volume application is recommended for control of large undisturbed clumps or small regrowth.

5 Pints/100 Gallons of Spray: Apply at the indicated stage of growth to control the following woody plants or broadleaf weeds:

Weed or Brush Species	Specific Use Directions
Chinese tallow tree	Apply in spring or fall when conditions are favorable for plant growth.
cactus, pricklypear or cholla	Applications may be made throughout the year. Spray to wet all pads to runoff. Use of a surfactant (0.25-0.5% vol/vol) is recommended. Water soluble dye may be added to the spray mixture to mark treated plants.
common goldenweed, Drummond's goldenweed	Apply in the spring (April-June) when favorable growing conditions result in substantial canopy development.
poisonous plants such as: groundsel (*Senecio* spp.), garbancillo (Wooton loco), and Woolly loco	Apply in fall or winter when moisture conditions are favorable. Herbicide treatment may increase palatability of poisonous plants. Do not graze treated areas until the toxic plants have dried up and lost their palatability.

For Control of Leafy Spurge

Apply Graslan L at 1.2 to 2.5 qts/A broadcast by ground or air for control of leafy spurge. Do not treat too early in the spring. Leafy spurge is most sensitive when the true flowers (after yellow bract is formed) and plants are developing (spring and early summer) or in early to mid-September after the stems have developed new fall regrowth. Treat annually for 2 to 3 years as a broadcast treatment to achieve optimal longer lasting control of large, older infested areas. Monitor the treated area for re-invading plants and treat patches of re-invading plants if necessary in year 4. Forage release from leafy spurge competition will occur in the first season of treatment but sustainable control of leafy spurge will usually only occur with a re-treatment program.

Treatment After Planting Grasses, Including Conservation Reserve Program (CRP) Acres

Weed Control Prior to Seeding or Planting Grasses
Graslan L may be applied to control weeds prior to planting **cool season grasses**.
Apply Graslan L at 2 2/3 pints per acre or less depending on the target species. Graslan L may be tank-mixed with Rodeo® or Accord® XRT II, Glyphomax® Plus (glyphosate) to control grasses prior to seeding. Do not premix the pure products together, always add them individually directly into the water. Add the glyphosate product last to the tank mix.

- To optimize weed control, minimal disturbance of the treatment area with the seeding operation is suggested. Leave the site undisturbed for a minimum of **21 days prior to seedbed preparation or seeding.** To optimize weed control and reduce the potential for injury of seeded grasses, increase the interval between application of Graslan L and planting grass seed.
- Do not plant smooth bromegrass for 60 days after treatment.

Perennial Grasses
Apply Graslan L to perennial grasses only after perennial grasses are well established as indicated by vigorous growth and a well-developed secondary root system.

Sprigged Bermudagrass: Graslan L at 1 pint per acre or less can be used on sprigged bermudagrass once the runners (stolons) have reached 6 inches in length and growing conditions are favorable.

Overseeding: Graslan L at rates of 1 pint per acre or less can be applied to permanent pastures that have been over seeded with small grains (such as barley, forage sorghum, oats, rye, ryegrass**,** sudangrass or wheat) grown for pasture or hay only. Young seedling small grains or grasses are sensitive to Graslan L. Do not apply Graslan L until overseeded grasses are well established and at tillering stage of growth or later.

Precautions:

- Applications of Graslan L to established warm season grasses such as bermudagrass during initial greenup in early spring could delay or suppress emergence of new growth. If temporary suppression of new growth cannot be tolerated, apply Graslan L prior to greenup or after vigorous vegetative growth has resumed.
- Conditions unfavorable to plant growth, such as drought, will increase potential for injury to grasses at all stages of growth.

Restrictions:

- Do not use Graslan L if legumes are a desired cover during CRP.
- **Crop Rotation:** Do not rotate to grain sorghum (milo) if greater than 2 2/3 pints per acre of Graslan L has been applied. For rates below 2 2/3 pints per acre, do not plant grain sorghum for 8 months after application. This product is not intended for use on land planted to sweet sorghum. To avoid potential crop injury, delay planting of small grains a minimum of 60 days of soil temperatures above 40ºF following application, except in Idaho, North Dakota, Nebraska, Montana, Oregon, South Dakota, Washington and Wyoming, where the minimum interval is 90 days.
- After CRP, do not plant broadleaf crops in treated acres until an adequately sensitive bioassay (described below) shows that no detectable picloram is present in the soil.

Field Bioassay Instructions: In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application. The test area should sample field conditions such as soil texture, soil pH, drainage, and any other variable that could affect the seed bed of the new crop. The field bioassay can be initiated at any time between harvest of the treated crop and the planting of the rotational crop. Observe the test crop for herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the test rotational crop; plant only a labeled crop such as pasture grasses, small grains (barley, oats, rye or wheat), or, after a rotational interval of 8 months, grain sorghum.

Fallow cropland (not rotated to broadleaf crops)

For Use Only in CO, KS, MT, ND, NE, NM, OK, SD, TX, UT, and WY

Apply Graslan L as a post-harvest or fallow treatment in continuous grain or during the fallow period. Graslan L may be applied alone or in tank mix combination with other herbicides registered for this use site. Apply in 2 or more gallons of water per acre by air or 5 or more gallons per acre by ground.

Do not apply more than 0.25 lb a.e. picloram (2.5 pint of Graslan L) per acre as a broadcast treatment per annual growing season

For best weed control results, do not cultivate for at least 2 weeks after application or until top growth is dead.

Application Rates
Annual Weeds: To control annual weeds such as Russian thistle and wild buckwheat, apply 1/2 to 1 pint per acre of Graslan L in tank mix combination with other herbicides registered for use on fallow land. Apply when weeds are actively growing.

Field Bindweed: Apply 1 to 2 1/4 pints per acre of Graslan L when bindweed is actively growing. Optimum time for treatment is when plant runners reach 8 to 12 inches. Use 1 pint per acre to control light to moderate infestations under good growing conditions or to reduce the potential for crop injury. Use 2 1/4 pint per acre for heavy infestations and to start a treatment program for long-term control. Some regrowth will occur the following season and a re-treatment program of 1 pint of Graslan L for one to two years will provide stand reduction.

Canada thistle: Apply 2 1/4 pint per acre of Graslan L when the majority of thistle plants are emerged but prior to bud stage.

Preplant Interval
A preplant interval following application of Graslan L prior to planting small grains is necessary to reduce or eliminate potential crop injury and/or yield reduction. The possibility for crop injury or yield reduction to occur depends on application rate, soil organic matter, rainfall, temperature and incidence of cereal diseases. Adequate soil moisture and soil temperature during the preplant interval is important in reducing, but may not eliminate, the risk of crop injury. When considering use of Graslan L on fallow land, growers should consider the benefit of weed control against the risk of crop damage and treat only if the risk of injury to small grains can be tolerated. The following preplant intervals are specific to the rate applied:

For applications up to 1 pint per acre, allow a minimum of **45 days** of soil temperatures above 40ºF between application and planting.

For applications of greater than 1 pint and up to 2 pints per acre, allow a minimum of **60 days of soil temperatures above 40ºF** between application and planting, except in the states of North Dakota, Nebraska, Montana, South Dakota and Wyoming, where the minimum preplant interval is **90 days**.

Degradation Factors: When planting into treated areas, the risk of crop injury is less if lower rates of product were applied and conditions following application have included warm, moist soil conditions that favor rapid breakdown of Graslan L. Risk is greater if higher rates of product were applied and soil temperatures have been cold and/or soils have been excessively wet or dry in the days following application. Consult your local agricultural extension service or information about susceptible crops and typical conditions in your area.

Crop Rotation
Use only on land to be planted the following year to grass, barley, oats, wheat, forage sorghum, sudangrass, or fallowed. Do not plant grain sorghum within 8 months after application. Do not use this product for sweet sorghum production or on land that will be rotated to sweet sorghum. Many broadleaf crops are extremely sensitive to soil residues of Graslan L. Do not plant sensitive broadleaf crops for 36 months after treatment or until soil residues have declined to a safe level as indicated by an adequately sensitive bioassay using the intended broadleaf crop. Conduct a bioassay following treatment and prior to planting any sensitive broadleaf crop.

- Do not rotate to forage sorghum if greater than 2 pints per acre of Graslan L has been applied. Do not plant forage sorghum within 8 months after application. Do not use this product for sweet sorghum production or on land that will be rotated to sweet sorghum.
- **To reduce potential damage to subsequent small grain crops or grain sorghum (milo)**, use low rates or discontinue the use of Graslan L at least 2 years prior to the seeding of small grain crops.

Field Bioassay Instructions: In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample variability in field conditions such as soil texture, soil organic matter, soil pH, rainfall pattern or drainage. The field bioassay can be initiated at any time between treatment and the planting of the intended rotational crop. Observe the

test crop for symptoms of herbicidal activity, such as poor stand (effect on seed germination), chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, do not plant the field to the intended rotational crop; plant only to wheat, barley, oats, forage grasses, native grasses or grasses grown for hay.

Restrictions:

- Do not apply more than 2 1/4 pint per acre as a broadcast treatment per annual growing season.
- **Spot Treatment:** See "Spot Treatment" in "Mixing and Application Methods" section for directions for calibration, spray volume determination and mixing. Spot treatments of Graslan L at rates over 2 1/4 pints per acre can be made on fallow, non-irrigated cropland if the treated areas comprise less than 10% of the immediate field in any one year. Do not make spot applications of Graslan L to fallow cropland at rates exceeding 1 lb ae picloram per acre (10 pints of Graslan L). When Graslan L is applied at rates above 2 1/4 pints per acre, injury to small grains may result for periods up to two years after treatment.

Mixing Instructions

A compatibility test (jar test) mixing the spray components in the desired order and proportions, is always advised prior to large scale batch mixing.

Ground or Aerial Application – For Use With Water Alone
Start with about half the required amount of water in the spray tank. With agitation operating, add the required amount of Graslan L. If a surfactant is needed, it should be added as the remainder of the required water is added to complete the spray mix. When using a drift control additive, carefully follow the manufacturer's directions. Complete dispersion and uniform mixing is essential to proper performance of drift control additives. This can be aided by thorough circulation through a mixing pump with moderate to high shearing action.

Use With Oil/Water Emulsions
Ground Application: Add oil to the total spray mix at a rate of 5 to 10% of the total mix, up to a maximum of 1 gallon of oil per acre, using agricultural spray emulsifiers and mixing procedures given below.

Aerial Application: Use oil and water in the spray mixture in a 1:5 ratio (1 part oil to 5 parts water), up to a maximum of 1 gallon of oil per acre using mixing procedures given below.

Mixing Instructions for Oil/Water Emulsions (Batch Mixing)
With continuous, vigorous agitation:

1. Add to the spray tank half the amount of water to be used.
2. Add the amount of Graslan L required for the total volume of spray being mixed.
3. Premix the required amount of oil with an emulsifier, using the manufacturer's specified rate of emulsifier per gallon of oil. Add the oil-emulsifier premix to the spray tank.
4. Finally, add the remaining amount of water required to bring the spray batch to the desired total volume.
5. **Maintain agitation in the spray tank during application.**

Mixing with Liquid Fertilizer for Broadleaf Weed Control in Rangeland and Permanent Grass Pastures

Graslan L may be tank mixed with liquid fertilizers and used in foliar application for weed control and fertilization of rangelands and permanent grass pastures. Avoid using liquid fertilizers in applications to brush as efficacy may be reduced. Use liquid fertilizers at rates specified by supplier or local Extension Service Specialist.

Mixing with Sprayable Liquid Fertilizer Solutions: Graslan L is usually compatible with liquid fertilizer solutions. It is anticipated that Graslan L will not require a compatibility agent for mixing with fertilizers; however, a compatibility test (jar test) should be made prior to large scale batch mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear jar before large scale mixing of spray components in the spray tank. When required, a compatibility agent could be used to help obtain and maintain a uniform spray solution during mixing and application. **Note**: The lower the temperature of the liquid fertilizer, the greater the likelihood of mixing problems. **Mixing Graslan L in N-P or N-P-K liquid fertilizer solutions is more difficult than mixing with straight nitrogen fertilizer, do not attempt without first conducting a successful compatibility jar test.** Agitation in the spray tank must be vigorous to be comparable with jar test agitation. Apply the spray mixture the same day it is prepared while maintaining continuous agitation. Rinse the spray tank thoroughly after use.

Suggested Mixing Procedure:

1. With continuous vigorous agitation, dilute herbicide with water (1 part herbicide to 2 parts water) before adding to liquid nitrogen fertilizer solution.
2. Apply as soon as mixing is complete, maintaining continuous, vigorous agitation throughout mixing and application without interruption.
3. Application during very cold (near freezing) weather is not advisable. The likelihood of mixing or compatibility problems with liquid fertilizer increases under cold conditions.
4. Do not store the spray mixture.

Note: Foliar-applied liquid fertilizers themselves can cause injury (such as: yellowing and burning) to the foliage of forage grasses and other vegetation especially in the summer. The addition of a surfactant to fertilizer blends may increase the injury potential.
Do not store the spray mixture.

Note: Do not use spray equipment for application of other products to land planted, or to be planted, to susceptible crops or desirable sensitive plants, **unless** it has been determined that all phytotoxic herbicide residue has been removed by thorough cleaning of the equipment. See "Cleaning Instructions for Sprayer Equipment" Use Precautions section of this label.

Cleaning Instructions for Spray Equipment

To avoid injury to desirable plants, equipment used to apply Graslan L must 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.

Forestry and Non-Crop Areas for example roadsides, railroads and other rights-of-way (see also list above)

Restrictions – Non-Cropland for example fencerows, hedgerows, roadsides, non-irrigation ditches, rights-of-way, utility power lines, railroads, airports, and industrial sites

Postemergence (annual and perennial weeds):

- Do not apply more than 2 applications per year
- Do not apply more than 5 pints/acre per application.
- Do not apply more than 10 pints/acre (1 1/4 gallon) per year.
- Use 2 or more gallons of spray solution per acre
- Minimum of 30 days between applications

Postemergence (woody plants):

- Do not apply more than 1 application per year or more than 1 application every two years for rates above 1 gal
- Do not apply more than 10 pints/acre (1 1/4 gallon) per application.
- Do not apply more than 10 pints/acre (1 1/4 gallon) per year.
- Use 2 or more gallons of spray solution per acre

Applications to non-cropland areas are not applicable to treatment of commercial timber or other plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes.

Restrictions – Forestry

- For broadcast applications, apply no more than 10 pints/acre per application.
- For basal spray, cut surface – stumps, and frill, apply no more than 10 pints per 100 gallons of spray solution with a limit of one basal spray or cut surface application per year.
- For injection applications, apply no more than 2 mL of 10 pints formulation per injection site. Limit to one injection application per year.
- Do not apply more than 1 broadcast application every two years.

Plants Controlled by Graslan L

Annual and Perennial Broadleaf Weeds Controlled by Graslan L

bindweed, field	goldenrod	rush skeleton weed
bouncing bet	horsenettle	sowthistle
carrot, wild	knapweed	spurge, leafy
chicory	milkweed	starthistle, yellow
clover	plantain	thistles
dandelion	prickly lettuce	toadflax
dock	ragweed	vetch
fleabane	ragwort, tansy	

Woody Plants and Vines Controlled by Graslan L

ailanthus	fir, balsam	persimmon
alder	gorse	pine
aspen	gum	poison oak
birch	hemlock	sassafras
blackberry	hickory	sourwood
bracken fern	honeysuckle	spruce
buttonbush	kudzu	sumac
cherry	locust	tulip poplar
Douglas-fir	maple	wild rose
elm	oak	willow

For information on the control of leafy spurge on these sites see leafy spurge section above.

High Volume Leaf-Stem Treatment

Use Graslan L at the rate of 5 pints in water to make 100 gallons of spray to control broadleaf weeds, vines, and other woody plants. To control a wider range of plant species, mix 1 1/4 to 2 2/3 pints of Graslan L with Garlon 4 Ultra herbicide, Vastlan or Garlon 3A Herbicide or a 2,4-D low-volatile ester and dilute to make 100 gallons of spray. Apply after the foliage is well developed and in a manner to give thorough spray coverage. For woody plants, apply the spray mixture in a manner which thoroughly wets all leaves, stems, and root collars. For hard-to-kill species, such as ash and oak, also wet the soil around the root collar. The amount of spray mixture applied per acre will vary with plant size and density; however, total use of Graslan L must not exceed 10 pints per acre. Where total vegetation control is desired mixes can be made with Rodeo, Accord XRT II or other non-selective herbicides.

Note: Do not allow the spray to contact desirable broadleaf plants, and do not wet the soil over roots of such plants.

Broadcast Ground or Aerial Foliage Treatment

To obtain adequate plant coverage, make ground applications of Graslan L in 15 or more gallons of total spray mixture per acre. For aerial applications, use 5 to 20 gallons per acre of spray mixture. Use higher spray volumes where plants are tall, where the vegetation to be treated is dense, or where difficult to control species are present.

Broadleaf Annual and Perennial Weed and Woody Vine Control
Use Graslan L weed and brush herbicide at rates of 2/3 to 1 1/4 gallons per acre in a water spray mixture. Apply to problem weeds and vines any time after growth begins in the spring and late in summer or fall.

For seasonal control of vigorously growing stands of field bindweed, Canada thistle, or mixtures of these with susceptible annual weeds such as ragweed, dandelion, plantain, clovers, and dock use 1 1/4 to 2 quarts of Graslan L per acre in water spray.

In arid areas and for control of more resistant perennial weeds use 2 1/2 quarts of Graslan L per acre. The spectrum of activity can be improved by tank mixing 1 1/4 to 2 1/2 quarts of Graslan L with Vastlan, Garlon 3A or Garlon 4 Ultra.

Woody Plant Control
Use Graslan L at the rate of 1/3 to 1 1/4 gallons per acre in a water spray mixture.

For susceptible seedling stages of species such as aspen, cherry, and sumac use 2/3 to 1 gallons of Graslan L per acre in a water spray mixture.

For more mature and/or less susceptible species such as poison oak, blackberries, Douglas fir, willow, buttonbush, black locust, sassafras, sumac, tulip poplar, and cherry use 1 1/4 gallons of Graslan L per acre in a water spray mixture.

For more resistant brush, such as maple, pine, sourwood, blackgum, cedar, and oak, and to improve the spectrum of species controlled, 2/3 to 1 1/4 gallons of Graslan L per acre can be tank mixed with Vastlan, Garlon 3A or Garlon 4 Ultra. Graslan L at 2/3 gallon per acre can also be tank mixed with a 2,4-D low-volatile ester. **When applying tank mixes with 2,4-D, the total amount of 2,4-D that is applied per acre must comply with the use rate limitations on the product label.**

Note: For best results under conditions of drought stress, use the higher specified rates. Even these rates under such conditions may not be as effective as the lower rates under good growing conditions.

Cut Surface Treatments

On labeled sites, to kill unwanted trees such as elm, maple, oak, and pine apply Graslan L, either undiluted or diluted in a 1:1 ratio with water, as directed below.

With Tree Injector Method
Apply by injecting 1/2 milliliter of undiluted Graslan L or 1 milliliter of the diluted solution through the bark at intervals of 3 inches between edges of the injector wound. Completely surround the tree with injections at any convenient height.

Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.

With Frill or Girdle Method
Make a single girdle through the bark completely around the tree at a convenient height. Wet the cut surface with the diluted solution.

Stump Treatment
Spray or paint to wet the cut surfaces of freshly cut stumps or stubs with Graslan L undiluted or diluted 1:1 in water. All of the cambium area next to the bark is the most vital area to wet.

The above methods may be used successfully at any season except during periods of heavy sap flow of certain species, such as maples, or during droughty periods. Untreated trees within a few feet of the treated trees or stumps may be injured or killed.

Broadcast Cut Stubble Treatment

To prevent resprouting of susceptible woody species, after mowing or hand-cutting on non-crop areas and rights-of-way, use Graslan L at the rate of 1 1/4 gallons per acre in 25 or more gallons of a water spray mixture. Best results may be obtained when applications are made before or during periods of active root growth. Do not apply when the soil surface is frozen or covered by snow or standing water. Make applications soon after cutting, before sprouting of woody species has occurred.

Broadcast Treatments for Forest Site Preparation
(not for conifer release)

For broadcast applications apply the rate of Graslan L in a total spray volume of 5 to 25 gallons per acre by air or 10 to 100 gallons per acre by ground. Use spray volumes sufficient to provide thorough coverage of treated foliage. Use application systems designed to prevent spray drift to off-target sites. Nozzles or additives that produce larger droplets may require higher spray volumes to provide adequate coverage. **Note:** This use is not intended for conifer release (see restrictions).

Southern States Including Alabama, Arkansas, Delaware, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Tennessee, Texas, and Virginia
To control susceptible woody plants and broadleaf weeds, apply Graslan L at a rate of 4 to 5 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 4 to 5 1/3 quarts per acre of Graslan L in tank-mixes with Garlon 4 Ultra herbicide or Forestry Garlon XRT . Where grass control is also desired, Graslan L, alone or in combination with Garlon 4 Ultra or Forestry Garlon XRT, Accord XRT II or Rodeo herbicide, or Arsenal Applicator's Concentrate herbicide. Susceptible woody plants, broadleaf weeds, and grasses may also be controlled using a tank mix of 4 to 5 1/3 quarts per acre of Graslan L and Accord XRT II or Rodeo herbicide, or Arsenal Applicator's Concentrate. **When applying tank mixes, follow use directions, restrictions and precautions on each product label. Use the higher rates in the ranges mentioned above for the various herbicide products and tank-mixes where weed and brush growth is heavy or dense, when hard-to-control species are prevalent, during applications in late summer or early fall when plants are mature, and/or during drought conditions.**

In Western, Northeastern, North Central, and Lake States (States not listed above as Southern States)
To control susceptible woody plants and broadleaf weeds, apply Graslan L at a rate of 2 2/3 to 5 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 2 2/3 to 5 quarts per acre of Graslan L in tank-mixes with Garlon 4 Ultra or Forestry Garlon XRT. Where grass control is also desired, Graslan L alone or in tank-mix combination with Garlon 4 Ultra, may be applied with Accord XRT II or Rodeo, Oust XP, a combination of, Accord XRT II or Rodeo plus Oust XP or Arsenal Applicator's Concentrate. **When applying tank mixes, follow the use directions, restrictions and precautions on each product label. Use the higher rates in the ranges mentioned above for the various herbicide products and tank-mixes where weed and brush growth is heavy or dense, when hard-to-control species are prevalent, during applications in late summer or early fall when plants are mature, and/or during drought conditions.**

Conifer Strip Thinning in the Northeastern United States

To thin stands of naturally regenerated spruce and fir by applying herbicide in treated bands or strips which alternate with untreated bands or strips, apply Graslan L such that the application rate in the treated bands or strips is 1 1/4 gallons of herbicide per acre in a total spray mixture volume of 12 to 20 gallons. For best results, apply during the period of active conifer growth. To obtain the precise placement of spray mixture in the treated bands that is required for this technique, make aerial applications using a helicopter equipped with a low drift boom, for

example, a Microfoil or Thru-Valve boom. Multiple treated bands may be obtained within a single spray swath by establishing alternating series of flowing and blocked spray nozzles.

Note: Injury or death of desired residual conifers may result if spray mixture is permitted to contact their foliage as a result of inaccurate flight guidance during aerial application or as a result of spray drift from treated into untreated strips.

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Revisions:

- Updated trademark