



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

August 25, 2022

Bill Washburn
Registration Manager
Helena Agri-Enterprises, LLC.
225 Schilling Blvd., Suite 300
Collierville, TN 38017

Subject: Registration Review Label Mitigation for Benfluralin and Oryzalin
Product Name: HELENA XL2G
EPA Registration Number: 5905-556
Application Dates: 05/02/2019 and 09/19/2019
Decision Numbers: 553588 and 555475

Dear Bill Washburn:

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

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

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

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

Sincerely,

A handwritten signature in blue ink, appearing to be "Linda Arrington", with a long horizontal stroke extending to the right.

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure: Stamped Label

BENFLURALIN	GROUP	3	HERBICIDE
ORYZALIN	GROUP	3	HERBICIDE



Contains oryzalin, the active ingredient in Surflan herbicides.

A selective preemergence herbicide for control of certain annual grasses and broadleaf weeds in:

- Container grown ornamentals
- Landscape ornamentals
- Nursery stock
- Ground covers
- Established flowers
- Ornamental bulbs
- Non-bearing fruit and nut trees and non-bearing vineyards
- Non-bearing berries
- Christmas tree plantations
- Non-cropland
- Established tall fescue and warm season turf (including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass, and zoysiagrass)

ACTIVE INGREDIENTS:

benfluralin : *N*-butyl-*N*-ethyl- α, α, α -trifluoro-2,6- dinitro-*p*-toluidine 1.0%
 oryzalin: 3,5-dinitro-*N*⁴,*N*⁴-dipropylsulfanilamide..... 1.0%

INERT INGREDIENTS 98.0%
Total 100.0%

Contains 1 pound active ingredient per 50 pound bag

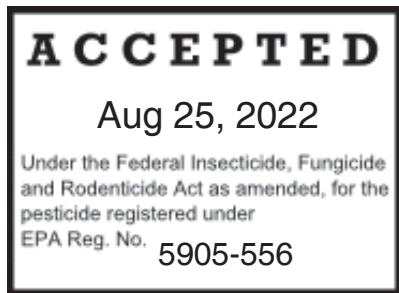
Keep Out of Reach of Children	
CAUTION PRECAUCION	
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)	
First Aid	
IF IN EYES:	<ul style="list-style-type: none"> • Hold eye open 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.
HOT LINE	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	

EPA Reg. No. 5905-556
 EPA Est. No.

AD 080912
 NET WEIGHT: _____



MANUFACTURED FOR
 HELENA AGRI-ENTERPRISES, LLC
 225 SCHILLING BOULEVARD, SUITE 300
 COLLIERVILLE, TENNESSEE 38017



Precautionary Statements
Hazards to Humans and Domestic Animals
CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves
- Shoes plus socks

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.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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 fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

NON-TARGET ORGANISM ADVISORY STATEMENT:

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

GROUNDWATER ADVISORY

Oryzalin is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

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 24 hours. **Exception:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows

workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks

Non-Agricultural Use Requirements

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

Entry Restrictions for Non-WPS Uses: Keep all persons, children, and pets out of treated area until dusts have settled.

Storage and Disposal

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

Pesticide Storage: Store in original container only. In case of leak or spill, contain material and dispose as waste.

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

Container Handling : Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling, if available or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WEED RESISTANCE MANAGEMENT

For resistance management, HELENA XL 2G is a Group 3 herbicide. Any weed population may contain or develop plants naturally resistant to HELENA XL 2G and other Group 3 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed."

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

- Rotate the use of HELENA XL 2G or other Group 3 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an

alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.

- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Helena Agri-Enterprises, LLC at 901-761-0050 or at www.helenachemical.com

Fields should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective.

Fields should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

Report any incidence of non-performance of this product against a particular weed species to your Helena Agri-Enterprises, LLC retailer, representative or call 901-761-0050. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further seed production.

Plant into weed-free fields and keep fields as weed-free as possible.

To the extent possible, use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices such as mechanical cultivation, biological management practices, and crop rotation.

Fields with difficult to control weeds should be rotated to crops that allow the use of herbicides with alternative mechanisms of action or different management practices.

To the extent possible do not allow weed escapes to produce seeds, roots or tubers. Manage weed seeds at harvest and post-harvest to prevent a buildup of the weed seed bank.

Prevent field-to-field and within-field movement of weed seed or vegetative propagules. Thoroughly clean plant residues from equipment before leaving fields.

Prevent an influx of weeds into the field by managing field borders.

Identify weeds present in the field through scouting and field history and understand their biology. The weed-control program should consider all of the weeds present.

Difficult to control weeds may require sequential applications of herbicides with differing mechanisms of action.

Apply this herbicide at the correct timing and rate needed to control the most difficult weed in the field.

Use a broad spectrum soil-applied herbicide with a mechanism of action that differs from this product as a foundation in a weed-control program. Do not use more than two applications of this or any other herbicide with the same mechanism of action within a single growing season unless mixed with an herbicide with another mechanism of action with an overlapping spectrum for the difficult-to-control weeds.

If resistance is suspected, treat weed escapes with an herbicide with a different MOA or use non-chemical methods to remove escapes.

Contact your local sales representative, crop advisor, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.

For additional information on the management of herbicide resistance, consult the Herbicide Resistance Action Committee (HRAC) "**Guideline to the Management of Herbicide Resistance**" found at the HRAC website <http://hracglobal.com/files/Management-of-Herbicide-Resistance.pdf>

General Information

HELENA® XL 2G herbicide is a preemergence herbicide for control of certain annual grasses and broadleaf weeds in container and landscape ornamentals, nursery stock, ground covers, established tall fescue and warm season turf, established flowers, ornamental bulbs, non-bearing fruit and nut trees and non-bearing vineyards, non-bearing berries, Christmas tree plantations, non-cropland and established tall fescue and warm season turf (including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass, and zoysiagrass). Apply **HELENA® XL 2G** prior to germination of target weeds or immediately after cultivation. Length of weed control will vary with rate of **HELENA® XL 2G** applied, weed population, potting media or soil conditions, temperature, watering regime, and other factors. Following application, user should monitor and observe level of weed control over time to determine when additional applications may be needed.

Precautions

HELENA® XL 2G does not control established weeds. Existing weeds should be controlled by cultivation or with postemergence herbicides. Weed residues, prunings and trash should be removed or thoroughly mixed into soil prior to treatment. Soil should be in good condition and free of clods at the time of application. When applied to turf, this product must be watered in as soon as possible after application to dissolve the granules. A single rainfall or sprinkler irrigation of 0.5 inches or more, or flood irrigation is required to activate **HELENA® XL 2G**. If rainfall or irrigation has not occurred within 21 days of application and tillage is possible, **HELENA® XL 2G** may be activated using cultivation equipment capable of uniformly mixing the herbicide into the upper 1-2 inches of soil. Failure to activate **HELENA® XL 2G** may result in erratic weed control. Do not apply when wind conditions favor drift of **HELENA® XL 2G** granules from the target area.

Users who wish to use **HELENA® XL 2G** on plant species not recommended on this label may determine the suitability for such uses by treating a small number of such plants at a recommended rate. Prior to treatment of larger areas, the treated plants should be observed for any sign of herbicidal injury during 30 to 60 days of normal growing conditions to determine if the treatment is non-injurious to the target plant species. **The user assumes responsibility for any plant damage or other liability resulting from use of HELENA® XL 2G on plant species not recommended on this label.**

Restrictions

Do not aerially apply this product.

Do not graze or feed forage from treated areas to livestock.

Do not apply this product to plants that will bear fruits, berries, or nuts within 12 months of application.

Application Directions

Apply **HELENA® XL 2G** using a drop or rotary-type spreader designed to apply granular herbicides or insecticides. Calibrate application equipment prior to use according to manufacturer's directions. Check frequently to be sure equipment is working properly and distributing granules uniformly. Do not use spreaders that apply material in narrow concentrated bands. Avoid skips or overlaps as poor weed control or crop injury may occur. More uniform application may be achieved by spreading half of the required amount of product over the area and then applying the remaining half in swaths at right angles to the first.

Application Techniques for Applying HELENA® XL 2G

- When using a drop-type spreader, a splashboard mounted under the hopper will provide more even granule distribution.
- A chain fastened to the side of the spreader and allowed to drag on the soil surface can be used to mark the edge of the treated swath and help prevent skips or overlaps.
- For treating smaller areas or rows of nursery stock or ornamental beds, a hand held or push-type rotary applicator such as a whirlybird or cyclone unit is recommended. For hand held units, walk and turn the crank at a constant rate of speed.
- A shaker-type applicator made from a small container with holes punched in the bottom is recommended for small, difficult to treat areas. Carefully measure the amount of product needed to avoid over-application.

Approved Uses

Established† Container Grown Ornamentals, Established Tall Fescue and Warm Season Turfgrasses, Landscape Ornamentals, Nursery Stock, Ground Covers, Flowers, Ornamental Bulbs, Non-bearing Fruit and Nut Trees and Non-bearing Vineyards, Non-bearing Berries, Christmas Tree Plantations, and Non-cropland

HELENA® XL 2G is recommended as a preemergence treatment for control of certain annual grasses and broadleaf weeds in container grown ornamentals, landscape ornamentals, nursery stock, ground covers, established tall fescue, warm season turfgrasses, established flowers, ornamental bulbs, non-bearing fruit and nut trees and non-bearing vineyards, non-bearing berries, Christmas tree plantations, and non-cropland. Apply HELENA® XL 2G prior to germination of target weeds, or immediately after cultivation.

Broadcast Application Rates:

Labeled Use Site	HELENA® XL 2G		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (lb/acre)
	(lb/acre)	(lb/1000 sq ft)		
• Landscape Ornamentals	200	4.6	2	800
• Field-grown and container-grown ornamentals	300	6.9	4	900

Landscape and field-grown ornamentals: Maximum of 2 applications per year

Nonbearing fruit and nut trees and non-bearing vineyards – Maximum of 2 applications per year.

Note: Refer to the "General Information" section of this label for use precautions and information on application.

Special Use Precautions

To avoid possible plant injury, **do not apply HELENA® XL 2G to:**

- plants or areas in greenhouses or other enclosed structures.
- plants that will bear fruits, berries, or nuts within 12 months of application.
- nursery seedbeds or forest or Christmas tree seedling transplant beds.
- unrooted liners or cuttings that have been planted in pots for the first time.
- pots less than four inches wide.
- ground covers until they are established and well rooted.
- ornamental plantings where the likelihood of runoff onto lawn areas containing dichondra or cool season turfgrass species exists.
- Do not apply HELENA® XL 2G to the following plant species or injury may occur:
Begonia spp. (begonia)
Coleus hybridus (coleus)
Deutzia gracilis (slender deutzia)
Pseudotsuga menziesii (Douglas-fir)
Thuja occidentalis 'Techny' (Techny arborvitae)
Tsuga canadensis (eastern hemlock)

Ice Plant: When establishing unrooted ice plant (*Mesembryanthemum crystallinum* and *Carpobrotus edulis*) on coarse soils, do not exceed the 200 lb/acre rate of HELENA® XL 2G or crop injury may occur. After the ice plant is well established, a second application may be made.

†**Definition of established plantings:** Apply only to established plantings. Established plants are defined as those that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation. Do not apply to seedbeds or seedling transplant beds.

Unlisted plant species: Users who wish to use HELENA® XL 2G on plant species not recommended on this label may determine the suitability for such uses by treating a small number of such plants at a recommended rate. Prior to treatment of larger areas, the treated plants should be observed for any sign of herbicidal injury during 30 to 60 days of normal growing conditions to determine if the treatment is non-injurious to the target plant species. **The user assumes responsibility for any plant damage or other liability resulting from use of HELENA® XL 2G on plant species not recommended on this label.**

Weeds Controlled or Suppressed by HELENA® XL 2G

Weeds controlled when HELENA® XL 2G is applied at a rate of 200 to 300 pounds per acre (4.6 to 6.9 pounds per 1000 sq ft).

Annual Grasses:

Common Name	Scientific Name
barley, little	<i>Hordeum pusillum</i>
barnyardgrass	<i>Echinochloa crus-galli</i>
bluegrass, annual	<i>Poa annua</i>
crabgrass	<i>Digitaria</i> spp.
crowfootgrass	<i>Dactyloctenium aegyptium</i>
cupgrass, southwestern	<i>Eriochloa gracilis</i>
foxtail	<i>Setaria</i> spp.
goosegrass	<i>Eleusine indica</i>
johnsongrass (seedling only)	<i>Sorghum halepense</i>
junglerice	<i>Echinochloa colinum</i>
lovegrass, Mexican	<i>Eragrostis mexicana</i>
lovegrass, orcutt	<i>Eragrostis orcuttiana</i>
oat, wild	<i>Avena fatua</i>
panicum, browntop	<i>Panicum fasciculatum</i>
panicum, fall	<i>Panicum dichotomiflorum</i>
panicum, Texas	<i>Panicum texanum</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
sandbur, field	<i>Cenchrus incertus</i>
signalgrass	<i>Brachiaria</i> spp.
sprangletop, red	<i>Leptochloa filiformis</i>
witchgrass	<i>Panicum capillare</i>

Broadleaf Weeds:

Common Name	Scientific Name
bittercress	<i>Cardamine oligosperma</i>
carpetweed	<i>Mollugo verticillata</i>
chickweed, common	<i>Stellaria media</i>
fiddleneck, coast	<i>Amsinckia intermedia</i>
filaree, redstem	<i>Erodium cicutarium</i>
filaree, whitestem	<i>Erodium moschatum</i>
groundsel, common	<i>Senecio vulgaris</i>
henbit	<i>Lamium amplexicaule</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
lambsquarters, common	<i>Chenopodium album</i>
pigweed	<i>Amaranthus</i> spp.
puncturevine	<i>Tribulus terrestris</i>
purslane, common	<i>Portulaca oleracea</i>
pusley, Florida	<i>Richardia scabra</i>
rocket, London	<i>Sisymbrium irio</i>

rockpurslane, desert	<i>Calandrinia ciliata</i>
shepherdspurse	<i>Capsella bursa-pastoris</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

In addition to the weeds controlled, the following weeds will be partially controlled or suppressed at 200 to 300 pounds per acre (4.6 to 6.9 pounds per 1000 sq ft).

Common Name	Scientific Name
horseweed	<i>Conyza canadensis</i>
ladythumb	<i>Polygonum persicaria</i>
lettuce, prickly	<i>Lactuca serriola</i>
mallow, common	<i>Malva neglecta</i>
milkweed, climbing	<i>Sarcostemma cynanchoides</i>
morningglory	<i>Ipomoea spp.</i>
mustard, black	<i>Brassica nigra</i>
mustard, wild	<i>Brassica kaber</i>
nightshade, black	<i>Solanum nigrum</i>
ragweed, common	<i>Ambrosia artemisiifolia</i>
smartweed	<i>Polygonum pensylvanicum</i>
sowthistle, annual	<i>Sonchus oleraceus</i>
spurge, spotted	<i>Euphorbia maculata</i>
teaweed (prickly sida)	<i>Sida spinosa</i>
velvetleaf	<i>Abutilon theophrasti</i>
wheat, volunteer	<i>Triticum spp.</i>

**HELENA® XL 2G May Be Used On The Following Established Plant Species:
(Note limitations on recommended treatment methods.)**

<u>Scientific Name/Common Name</u>	Trees	
	Recommended Treatment Method:	
	C	F
<i>Abies balsamea</i> Balsam fir		F
<i>Abies concolor</i> White fir		F
<i>Abies fraseri</i> Fraser fir		F
<i>Abies grandis</i> Grand fir		F
<i>Abies lasiocarpa</i> Alpine fir		F
<i>Abies veitchi</i> Veitch fir		F
<i>Abutilon hybridum</i> Albus flowering maple		F
Luteus flowering maple		F
Roseus flowering maple		F
Tangerine flowering maple		F
Vesuvius red flowering maple		F
<i>Acer spp.</i> maple		F
<i>Arecastrum romanzoffianum</i> Queen palm		F
<i>Betula papyrifera</i> Paper birch		F
<i>Betula nigra</i> River birch		F

<i>Betula pendula</i>	
White birch	F
<i>Bucida buceras</i>	
Black olive	F
<i>Ceratonia siliqua</i>	
Carob	F
<i>Cercidium floridum</i>	
Blue palo verde	F
<i>Cercis Canadensis</i>	
Redbud	C,F
<i>Chamaecyparis lawsoniana</i>	
Lawson falsecypress	F
<i>Chamaecyparis obtusa</i> spp.	
Filicoides-fernspray cypress	F
Gracilis-slender Hinoki cypress	F
<i>Chamaecyparis pisifera</i>	
Sawara-false cypress	F
Squarrosa-moss cypress	F
<i>Chamaedorea cataractarum</i>	
Cat palm	F
<i>Chamaedorea costaricana</i>	
Palm	F
<i>Chamaedorea elegans</i>	
Parlor palm	F
<i>Cornus florida</i>	
Flowering dogwood	F
<i>Crupaniopsis anacardioides</i>	
Carrot wood	F
<i>Cryptomeria japonica</i>	
Japanese cryptomeria	C,F
<i>Cupressus glabra</i>	
Arizona cypress	C,F
<i>Cupressus sempervirens</i>	
Italian cypress	C,F
<i>Elaeagnus angustifolia</i>	
Russian olive	C,F
<i>Eucalyptus cinerea</i>	
Mealy eucalyptus	F
Silver dollar eucalyptus	F
<i>Eucalyptus camaldulensis</i>	
Red gum eucalyptus	F
<i>Eucalyptus nicholii</i>	
Narrow-leaved eucalyptus	F
<i>Eucalyptus sideroxylon</i>	
Red ironbark eucalyptus	F
<i>Ficus benjamina</i>	
Ficus	F
<i>Fraxinus</i> spp.	
Ash	F
<i>Ginkgo biloba</i>	
Maidenhair tree	C,F
<i>Gleditsia triacanthos</i>	
Honey locust	F
<i>Heteromeles arbutiflora</i>	
Toyon	F
<i>Juniperus virginiana</i>	
Eastern redcedar`	F
<i>Kalmia latifolia</i>	
Mountain laurel	F
<i>Koelreuteria paniculata</i>	
goldenrain tree	F

<i>Liquidambar styraciflua</i>	
American sweet gum	C,F
<i>Magnolia grandiflora</i>	
Southern magnolia	F
<i>Malus</i> spp.	
Crabapple	F
<i>Morus alba</i>	
White mulberry	F
<i>Olea euripaea</i>	
Olive	F
<i>Picea abies</i>	
Norway spruce	F
<i>Picea engelmanni</i>	
Engelmann spruce	F
<i>Picea glauca</i>	
Conica-dwarf Alberta spruce	F
White spruce	F
<i>Picea mariana</i>	
Black spruce	F
<i>Picea pungens</i> spp.	
Glaucacolorado blue spruce	F
Hoop's blue spruce	F
Koster-Koster blue spruce	F
<i>Pinus</i> spp.	
Pine	C,F
<i>Platanus occidentalis</i>	
American sycamore	F
<i>Platanus racemosa</i>	
California sycamore	F
<i>Podocarpus</i> spp.	
Podocarpus	F
<i>Populus deltoides</i>	
Cottonwood	F
<i>Prunus caroliniana</i>	
Carolina laurelcherry	F
<i>Prunus laurocerasus</i>	
English laurelcherry	F
<i>Prunus mahaleb</i>	
Mahaleb cherry	F
<i>Prunus yedoensis</i>	
Yoshino flowering cherry	F
<i>Quercus</i> spp.	
Oak	C,F
<i>Salix babylonica</i>	
Babylon weeping willow	F
Corkscrew willow	F
<i>Schinus molle</i>	
California pepper tree	F
<i>Sequoiadendron giganteum</i>	
Giant sequoia	F
<i>Sequoia sempervirens</i>	
Coast redwood	F
<i>Swietenia mahogani</i>	
Mahogany	F
<i>Tabebuia caraiba</i>	
Yellow tab	F
<i>Tilia cordata</i>	
Littleleaf linden	C,F
<i>Thuja plicata</i>	
Western redcedar	F
<i>Ulmus parvifolia</i>	

Chinese Elm	F
<i>Umbellularia californica</i>	
California laurel	F
<i>Washingtonia robusta</i>	
Mexican fan palm	F

Ornamental Shrubs

Recommended Treatment Method:

C = Container Grown

F = Field Grown

Scientific Name/Common Name

<i>Abelia grandiflora</i>	
Glossy abelia	F
<i>Acacia redolens</i>	
Prostrate acacia	F
<i>Agave americana</i>	
Century plant	F
<i>Agave macroculmis</i>	
Agave	F
<i>Arctostaphylos stanfordiana</i>	
Stanford manzanita	F
<i>Astilbe chinensis</i>	
False spirea	C,F
<i>Baccharis pilularis</i>	
Coyotebush	F
<i>Berberis thunbergii</i>	
Atropurea-Redleaf Japanese barberry	C,F
Aurea golden Japanese barberry	C,F
Crimson pygmy barberry	C,F
<i>Bougainvillea</i> spp.	
Barbara Karst	F
California Gold	F
Scarlet O'Hara	F
Texas Dawn	F
<i>Buxus microphylla</i>	
Japonica-Japanese boxwood	C,F
Littleleaf boxwood	F
<i>Buxus sempervirens</i>	
Common boxwood	C,F
<i>Callistemon citrinus</i>	
Lemon bottlebrush	C,F
<i>Ceanothus</i> spp.	
Wild lilac	C,F
<i>Chamaecyparis obtusa</i> spp.	
Kosteri cypress	F
Nana-dwarf Hinoki cypress	F
Torulosa cypress	F
<i>Chamaecyparis pisifera</i>	
Filifera-thread cypress	F
Squarrosa minima-dwarf moss cypress	F
<i>Chrysalidocarpus lutescens</i>	
Areca palm	F
<i>Cleyera japonica</i>	
Japanese cleyera	C,F
<i>Cotoneaster adpressus</i>	
Praecox-early cotoneaster	F
<i>Cotoneaster apiculatus</i>	
Cranberry cotoneaster	C,F
<i>Cotoneaster buxifolius</i>	
Brightbead cotoneaster	F
<i>Cotoneaster congestus</i>	

Pyrenees cotoneaster	F
<i>Cotoneaster dammeri</i>	
Bearberry cotoneaster	C, F
<i>Cotoneaster himalayan</i>	
Himalayan cotoneaster	F
<i>Cotoneaster horizontalis</i>	
Rock cotoneaster	C, F
<i>Cotoneaster lacteus</i>	
Parney cotoneaster	C, F
<i>Cotoneaster microphyllus</i>	
Rockspray cotoneaster	F
<i>Cornus alba</i>	
Sibirica-Siberian dogwood	F
<i>Cornus florida</i>	
Flowering dogwood	F
<i>Cornus kousa</i>	
Kousa dogwood	C, F
<i>Cornus stolonifera</i>	
Flaviramea-yellowtwig dogwood	F
<i>Cryptomeria japonica</i>	
Japanese cryptomeria	C, F
<i>Cytisus praecox</i>	
Holandia-warminster broom	F
<i>Cytisus scoparius</i>	
Lena-Scotch broom	F
<i>Dasyliirion wheeleri</i>	
Desert spoon sotol	F
<i>Deutzia crenata</i>	
Nakiana dwarf deutzia	F
<i>Dodonea viscosa</i>	
Hopseed bush	F
<i>Escallonia exoniensis</i>	
Escallonia	C, F
<i>Euonymus alata</i>	
Winged euonymus	F
<i>Euonymus fortunei</i>	
Canadale gold euonymus	C, F
Emerald'n gold euonymus	C, F
Stringybark euonymus	C, F
Wintercreeper	C, F
<i>Euonymus japonica</i>	
Evergreen euonymus	C, F
Silver king euonymus	F
<i>Euonymus kiautschovica</i>	
Spreading euonymus	F
<i>Fatshedera lizei</i>	
Fatshedera	C, F
<i>Forsythia intermedia</i>	
Forsythia	F
<i>Gardenia jasminoides</i>	
Gardenia	C, F
<i>Genista pilosa</i>	
Woadwaxen	F
<i>Hibiscus rosa-sinensis</i>	
Chinese hibiscus	F
Ross Estey hibiscus	F
<i>Hibiscus syriacus</i>	
Rose of Sharon, Red Bird	F
Rose of Sharon, Red Heart	F
Rose of Sharon, Woodbridge	F
<i>Hypericum</i> spp.	

St. Johnswort	F
<i>Ilex aquifolium</i>	
Balkans holly	F
English holly	F
Gold coast holly	F
<i>Ilex aquipernyi</i>	
San Jose holly	C,F
<i>Ilex cornuta</i>	
Chinese holly	C,F
Dwarf burford holly	C,F
<i>Ilex crenata</i>	
Convexa holly	C,F
Compacta-dwarf Japanese holly	C,F
Helleri-Heller's Japanese holly	C,F
Japanese holly	C,F
<i>Ilex glabra</i>	
Nordica-inkberry holly	F
<i>Ilex meserveae</i>	
Blue girl holly	F
Blue boy holly	F
Ebony magic holly	F
<i>Ilex vomitoria</i>	
Nana-dwarf yaupon holly	C,F
Pendula-weeping yaupon holly	C,F
Yaupon holly	C,F
<i>Juniperus</i> spp.	
Juniper	C,F
<i>Justicia brandegeana</i>	
Shrimp plant	C,F
<i>Justicia spicigera</i>	
Mexican honeysuckle	F
<i>Lagerstroemia indica</i>	
Crape myrtle	C,F
<i>Leucothoe axillaris</i>	
Coast leucothoe	F
<i>Leucothoe fontanesiana</i>	
Drooping leucothoe	F
<i>Ligustrum amurense</i>	
Amur privet	C,F
<i>Ligustrum japonicum</i>	
Japanese privet	C,F
Yellow tip ligustrum	C,F
<i>Ligustrum texanum</i>	
Wax leaf privet	F
Howardi privet	F
<i>Ligustrum lucidum</i>	
Glossy privet	C,F
<i>Ligustrum ovalifolium</i>	
California privet	F
<i>Ligustrum vicaryi</i>	
Vicary golden privet	C,F
<i>Livistona chinensis</i>	
Chinese fountain palm	F
<i>Lonicera fragrantissima</i>	
Winter honeysuckle	F
<i>Lonicera periclymenum</i>	
Flowering woodbine	F
Serotina woodbine	F
<i>Lonicera sempervirens</i>	
Trumpet honeysuckle	F
<i>Mahonia aquifolium</i>	

Oregon grape	F
<i>Myoporum parvifolium</i>	
Prostrate myoporum	F
<i>Myrtus communis</i>	
True myrtle	C,F
<i>Nandina domestica</i>	
Compacta-dwarf heavenly bamboo	C,F
Harbour-dwarf heavenly bamboo	C,F
Heavenly bamboo	C,F
Nana compacta- heavenly bamboo	C,F
Nana purpurea-heavenly bamboo	C,F
Woods-dwarf heavenly bamboo	C,F
<i>Nerium oleander</i>	
Hardy red oleander	C,F
Oleander	C,F
Ruby lace oleander	C,F
<i>Osmanthus heterophyllus</i>	
Holly-leaf osmanthus	F
<i>Pachysandra terminalis</i>	
Japanese spurge	F
<i>Philadelphus</i> spp.	
Mockorange	C,F
<i>Phoenix roebelenii</i>	
Pygmy date palm	F
<i>Photinia fraseri</i>	
Fraser's photinia	C,F
<i>Picea abies</i>	
Repens-spreading Norway spruce	F
Pendula-weeping Norway spruce	F
<i>Pieris japonica</i>	
Andromeda	C,F
Lily-of-the-valley	F
Snowdrift	F
Temple bells lily-of-the-valley	F
Valley rose lily-of-the-valley	F
<i>Pittosporum</i> spp.	
Pittosporum	C,F
<i>Platycladus orientalis</i>	
Oriental arborvitae	C,F
<i>Plumbago ariculata</i>	
Blue cape plumbago	F
<i>Podocarpus macrophyllus</i>	
Yewpine	C,F
<i>Potentilla fragiformis</i>	
Cinquefoil	F
<i>Potentilla fruticosa</i>	
Cinquefoil	C,F
<i>Protea neriifolia</i>	
Protea	F
<i>Pyracantha coccinea</i>	
Scarlet forethorn	C,F
<i>Pyracantha fortuneana</i>	
Lalendel Monrovia pyracantha	C,F
Monon pyracantha	C,F
Red elf hybrid pyracantha	C,F
Rutgers hybrid pyracantha	C,F
Santa Cruz pyracantha	C,F
Victory pyracantha	C,F
<i>Pyracantha skoidzumi</i>	
Formosa firethorn	C,F
<i>Raphiolepis indica</i>	

Enchantress-Moness raphiolepis	F
India hawthorn	C,F
Springtime-Monme raphiolepis	F
<i>Raphiolepis ovata</i>	
Round-leaf raphiolepis	F
<i>Rhipsalidopsis gaetneri</i>	
Easter cactus	C,F
<i>Rhododendron</i> spp.	
Azalea	C,F
Rhododendron	C,F
<i>Rhus lancea</i>	
African sumac	C,F
<i>Rosa rugosa</i>	
Ramanas rose	F
<i>Rosmarinus officinalis</i>	
Rosemary	F
<i>Spiraea vanhouttei</i>	
Bridal wreath	F
<i>Syringa vulgaris</i>	
Common lilac	F
<i>Syzygium paniculata</i>	
Brush cherry	C,F
<i>Taxus cuspidata</i>	
Japanese yew	F
<i>Taxus media</i>	
Yew	F
<i>Thuja occidentalis</i>	
American arborvitae	F
Emerald arborvitae	F
Globosa-globe arborvitae	F
Little Giant-dwarf arborvitae	F
Nigra-dark American arborvitae	F
Pyramidalis arborvitae	F
Rheingold arborvitae	F
Woodwardii arborvitae	F
<i>Thuja orientalis</i>	
Aurea nana-dwarf golden arborvitae	F
Minima glauca-dwarf arborvitae	F
<i>Trachelospermum jasminoides</i>	
Chinese star jasmine	F
<i>Veitchia merilli</i>	
Christmas palm	F
<i>Viburnum davidii</i>	
David viburnum	F
<i>Viburnum japonicum</i>	
Viburnum	F
<i>Viburnum opulus sterile</i>	
Eastern snowball viburnum	F
<i>Viburnum plicatum tomentosum</i>	
Doublefile viburnum	F
<i>Viburnum x pragense</i>	
Virburnum	F
<i>Viburnum setigerum</i>	
Tea viburnum	F
<i>Viburnum suspensum</i>	
Sandankwa viburnum	F
<i>Viburnum tinus</i>	
Compactum-spring bouquet viburnum	F
Laurastinus viburnum	C,F
<i>Viburnum trilobum</i>	
Compactum-dwarf cranberry bush	F

<i>Weigela florida</i>	
Java red weigela	F
Bristol ruby weigela	F
Minuet weigela	F
<i>Xylosma congestum</i>	
Xylosma	F
<i>Yucca elata</i>	
Soaptree yucca	C,F
<i>Yucca recurvifolia</i>	
Pendulous yucca	F

Ground Covers

Recommended Treatment Method:

C = Container Grown

F = Field Grown

Scientific Name/Common Name

<i>Agapanthus africanus</i>	
Lily-of-the-Nile	C,F
<i>Ajuga</i> spp.	
Carpet bugle	F
<i>Arctotheca calendula</i>	
Cape weed	F
<i>Campanula elatines</i>	
Bellflower	C,F
<i>Carpobrotus edulis</i>	
Largeleaf iceplant	F
<i>Clytostoma callistegioides</i>	
Violet trumpet vine	C,F
<i>Cortaderia selloana</i>	
Pampas grass	F
<i>Delosperma alba</i>	
White iceplant	F
<i>Drosanthemum floribundum</i>	
Trailing rosea iceplant	F
<i>Festuca ovina</i>	
Blue fescue	F
<i>Gazania</i> spp.	
Gazania	F
<i>Hedera canariensis</i>	
Algerian ivy	F
<i>Hedera helix</i>	
English ivy	F
<i>Hemerocallis</i> spp.	
Day lily	C,F
<i>Hosta</i> spp.	
Plantain lily	C,F
<i>Hypericum</i> spp.	
St. Johnswort	F
<i>Lampranthus spectabilis</i>	
Red trailing iceplant	F
<i>Liriope gigantea</i>	
White lily turf	F
<i>Liriope muscari</i>	
Big blue lily turf	C,F
Lilac beauty lily turf	C,F
Majestic lily turf	C,F
Monroe white lily turf	C,F
Silvery sunproof lily turf	C,F
Variegated liriope lily turf	C,F
<i>Lonicera japonica</i>	
Japanese honeysuckle	F

<i>Mesembryanthemum crystallinum</i>	
Ice plant	F
<i>Ophiopogon japonicus</i>	
Mondo grass	F
<i>Osteospermum fruticosum</i>	
Trailing African daisy	F
<i>Sedum brevifolium</i>	
Stonecrop	F
<i>Trachelospermum jasminoides</i>	
Chinese star jasmine	F
<i>Vinca major</i>	
Bigleaf periwinkle	F
<i>Vinca minor</i>	
Dwarf periwinkle	F

Established Flowers

Recommended Treatment Method:

C = Container Grown

F = Field Grown

Scientific Name/Common Name

<i>Achillea</i> spp.	
Yarrow	F
<i>Antirrhinum majus</i>	
Snapdragon	F
<i>Caladium bicolor</i>	
Fancy-leaved caladium	F
<i>Chrysanthemum coccineum</i>	
Painted daisy	F
<i>Chrysanthemum maximum</i>	
Shasta daisy	F
<i>Chrysanthemum morifolium</i>	
Chrysanthemum	F
<i>Coreopsis lanceolata</i>	
Coreopsis	F
<i>Dianthus barbatus</i>	
Sweet william	F
<i>Dicentra spectabilis</i>	
Bleeding heart	C,F
<i>Dimorphotheca</i> spp.	
Cape marigold	F
<i>Echinacea purpurea</i>	
Purple coneflower	F
<i>Geum quellyon</i>	
Geum	F
<i>Gladiolus hortulanus</i>	
Gladiolus	F
<i>Gypsophila paniculata</i>	
Baby's breath	F
<i>Impatiens wallerana</i>	
Impatiens	F
<i>Iris</i> spp.	
Bearded iris	F
<i>Liatris spicata</i>	
Blazing star	C,F
<i>Pelargonium hortorum</i>	
Geranium	F
<i>Petunia</i> spp.	
Petunia	F
<i>Portulaca grandiflora</i>	
Rose moss	F
<i>Ranunculus asiaticus</i>	

Persian ranunculus	F
<i>Rosa</i> spp.	
Rose	F
<i>Rudbeckia hirta</i>	
Gloriosa daisy/black-eyed susan	F
<i>Salvia</i> spp.	
Sage	F
<i>Stokesia laevis</i>	
Stokes aster	F
<i>Strelitzia reginae</i>	
Bird of paradise	F
<i>Tagetes</i> spp.	
Marigold	F
<i>Viola wittrockiana</i>	
Pansy	F
<i>Zinnia elegans</i>	
Common zinnia	F

Non-bearing Fruit and Nut Trees and Non-bearing Vineyards †

Recommended Treatment Method:

C = Container Grown

F = Field Grown

<u>Common Name</u>	
Almond	F
Apple	F
Apricot	F
Avocado	F
Cherry, sour	F
Cherry, sweet	F
Fig	F
Filbert	F
Grape, American	F
Grape, European	F
Grapefruit	F
Kiwi	F
Kumquat	C,F
Lemon	F
Macadamia nut	F
Nectarine	F
Olive	F
Orange	C,F
Peach	F
Pear	F
Pecan	C,F
Pistachio	F
Plum	F
Pomegranate	F
Prune	F
Walnut, black	F
Walnut, English	F

† Non-bearing fruit and nut trees and non-bearing vineyards are defined as plants that will not bear fruit for at least one year after treatment. Do not apply to plants that will bear fruits, berries or nuts within 12 months of application.

Non-bearing Berries †

Recommended Treatment Method:

C = Container Grown

F = Field Grown

Common Name

Blackberry	F
Blueberry	F
Boysenberry	F
Currant	F
Dewberry	F
Elderberry	F
Gooseberry	F
Loganberry	F
Raspberry	F

† Non-bearing berries are defined as plants that will not bear berries for at least one year after treatment. Do not apply to plants that will bear fruits, berries, or nuts within 12 months of application.

Ornamental Bulbs

Special Use Precautions

Do not apply to tulip plants that have emerged to a height greater than 3/4 inch. Deep till prior to planting any crop after this use.

Do not apply to gladioli prior to emergence or to plants less than one inch in diameter.

Fall application to coarse soils – Maximum of 2 applications per year

February through March applications to all soils – Maximum of 3 applications per year.

Application Rates, Frequency, and Timing of Applications

HELENA® XL 2G may be applied for annual weed control in ornamental bulbs such as bulbous iris, daffodil (*narcissus*), hyacinth, and tulip. Apply **HELENA® XL 2G** to the soil surface two (2) to four (4) weeks after planting and final hilling but prior to the emergence of annual weeds. **HELENA® XL 2G** may also be applied following bulb emergence. For fall-planted bulbs, apply **HELENA® XL 2G** again in late winter or early spring to weed-free soil surfaces.

Broadcast Application Rates

Time of Application	Soil Texture	HELENA® XL 2G		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (lb/acre)
		(lb/acre)	(lb/1000 sq ft)		
Fall	Coarse	75	1.7	3	150
Fall	Medium and Fine	150	3.4	3	225
Feb. - March	All Soil Textures	75	1.7	3	225

Christmas Tree Plantations

Apply **HELENA® XL 2G** to established plantings of labeled field grown Christmas tree species prior to germination of target weeds. Do not apply to Douglas fir (*Pseudotsuga menziesii*) or Eastern hemlock (*Tsuga canadensis*). Do not apply to seedbeds or seedling transplant beds. Apply only to established plantings. Established plants are defined as those that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.

Maximum of 2 applications per year.

Broadcast Application Rates

Length of Control	HELENA® XL 2G		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (lb/acre)
	(lb/acre)	(lb/1000 sq ft)		
2 - 4 months	200	4.6	2	800

Note: Refer to the "General Information" section of this label for use precautions and information on application. Refer to "Approved Uses" section of this label for special use precautions and information weeds controlled.

Noncropland Areas: Industrial Sites, Utility Substations, Highway Guardrails, Sign Posts, and Delineators

HELENA® XL 2G is recommended as a preemergence treatment for control of certain annual grasses and broadleaf weeds on industrial sites, utility substations, highway guardrails, sign posts, and delineators. Apply **HELENA® XL 2G** prior to germination of target weeds. Areas to be treated should be free of established weeds or existing weeds should be controlled with postemergence herbicides.

Maximum of 2 applications per year.

Broadcast Application Rates

Length of Control	HELENA® XL 2G		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (lb/acre)
	(lb/acre)	(lb/1000 sq ft)		
2 - 4 months	200	4.6	2	600

Note: Refer to the "General Information" section of this label for use precautions and information on application. Refer to "Approved Uses" section of this label for special use precautions and information weeds controlled.

Warm Season Turfgrasses

HELENA® XL 2G may be applied as a preemergence treatment for control of annual grasses and certain broadleaf weeds in established warm season turf including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass and zoysiagrass or established tall fescue growing in warm season areas. Established turf is defined as a dense turf having a well-anchored root system and healthy, vigorous top growth.

Successful preemergence control of weeds listed on this label requires that **HELENA® XL 2G** be applied prior to weed germination and be activated by at least one-half (1/2) inch of rainfall or irrigation within 21 days of application.

Special Use Precautions:

To avoid possible injury, do not apply **HELENA® XL 2G** to:

- Cool season turfgrass species other than tall fescue.
- Lawns containing dichondra or cool season turfgrass species.
- Golf course putting greens or tees.
- Turfgrass in the spring that was planted the previous fall.
- Newly sprigged or sodded areas of bermudagrass, St. Augustinegrass, centipedegrass, zoysiagrass or tall fescue until these turfs are well established and have well anchored root systems.
- Newly hydromulched areas of bermudagrass until such areas are well established.
- Helena® XL 2G must be watered in as soon as possible after application to dissolve the granules. A single rainfall or irrigation of ½ inch or more is required after product application. Watering-in must be performed by the commercial applicator or the commercial applicator must provide the following information to the resident or owner in writing:
 - "This product must be watered in as soon as possible".
 - "Do not enter or allow others (including children or pets) to enter the treated areas (except those involved in the watering) until the watering-in is complete and the surface is dry."

HELENA® XL 2G will not control emerged weeds.

HELENA® XL 2G may injure turf that is not well established or is stressed or weakened due to unfavorable winter climatic conditions, drought, nematodes, or other factors which damage or weaken turf root systems. Apply **HELENA® XL 2G** only to healthy, well-established turf that has a well-anchored root system.

Do not apply **HELENA® XL 2G** in the spring or early summer to tall fescue turfgrass reseeded the previous fall. In such cases, apply Balan* 2.5G granular herbicide at 60 to 80 pounds per acre in early summer (Round 1) and **HELENA® XL 2G** at 100 pounds per acre approximately eight weeks later (Round 2).

HELENA® XL 2G may thin established annual bluegrass (*Poa annua*) at rates above 100 pounds per acre.

In bermudagrass areas that have been overseeded with winter grasses, a spring application of **HELENA® XL 2G** will thin the overseeded grasses.

The maximum application rate is 3 lbs. ai per acre per application.

The maximum number of applications is 2 per year.

The maximum annual application rate is 6 lbs. ai per acre per year.

Weeds Controlled or Suppressed by HELENA® XL 2G

Weeds controlled by HELENA® XL 2G when applied at 100 to 150 lb/acre (2.3 to 3.4 lb/1000 sq ft)

Annual Grasses

Summer Annuals:

Common Name	Scientific Name
barnyardgrass	<i>Echinochloa crus-galli</i>
crabgrass	<i>Digitaria</i> spp.
crowfootgrass	<i>Dactyloctenium aegyptium</i>
foxtail	<i>Setaria</i> spp.
goosegrass	<i>Eleusine indica</i>
johnsongrass (seedling only)	<i>Sorghum halepense</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
sandbur, field	<i>Cenchrus incertus</i>

Winter Annuals:

Common Name	Scientific Name
bluegrass, annual	<i>Poa annua</i>

Broadleaf Weeds

Summer Annuals:

Common Name	Scientific Name
carpetweed	<i>Mollugo verticillata</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
purslane, common	<i>Portulaca oleracea</i>

Winter Annuals:

Common Name	Scientific Name
chickweed, common	<i>Stellaria media</i>
henbit	<i>Lamium amplexicaule</i>

In addition to the weeds controlled, the following weeds will be partially controlled or suppressed at 100 to 150 lb/acre (2.3 to 3.4 lb/1000 sq ft).

Common Name	Scientific Name
carrot, wild	<i>Daucus carota</i>
fleabane, dwarf	<i>Conyza ramosissima</i>
groundsel, common	<i>Senecio vulgaris</i>
mustard, Indian	<i>Brassica juncea</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

Application Rates, Frequency and Timing of Applications

HELENA® XL 2G can be applied in the spring for summer annual grass and broadleaf weed control, and in the fall for annual bluegrass (*Poa annua*) and winter annual broadleaf weed control.

Broadcast Application Rates (Warm Season Turfgrasses)

Use Area	HELENA® XL 2G		Minimum Time Between Applications (months)	Total Amount Allowed Per Year (lb/acre)
	(lb/acre)	(lb/1000 sq ft)		
All regions	100	2.3	2	200
	150	3.4	3	300

1. Summer Annual Grasses and Broadleaf Weeds

Single Application Program: Apply 150 pounds per acre of **HELENA® XL 2G** in late winter or early spring, prior to the onset of conditions favorable for summer annual weed germination.

Split Application Program: As an alternative to a single application program, **HELENA® XL 2G** may be applied in a split application. This program is desirable when the initial application is made well in advance of weed germination and where weed control is desired for a longer period of time. Apply 100 pounds per acre of **HELENA® XL 2G** in an initial application, followed by a second application of 100 pounds per acre 8 to 10 weeks later.

The second treatment of the split application may follow application of a different preemergence grass herbicide in place of the initial **HELENA® XL 2G** application.

2. Annual Bluegrass and Winter Annual Broadleaf Weeds

Apply **HELENA® XL 2G** as a preemergence treatment in late summer or early fall, prior to the expected germination period for annual bluegrass and winter annual broadleaf weeds. Do not apply **HELENA® XL 2G** to areas where fall overseeding will occur. If annual bluegrass infestation is severe and its elimination will result in thinning of turfgrass cover, apply **HELENA® XL 2G** at 100 pounds per acre. If thinning of turfgrass cover is not a potential problem, **HELENA® XL 2G** may be applied at 150 pounds per acre.

In areas of heavy annual bluegrass infestation, its elimination will result in temporary thinning of turfgrass cover. Proper fertilization, irrigation and soil incorporated reseeding should be employed to speed the restoration of desirable turfgrass cover in areas previously occupied by annual bluegrass (See section on reseeding).

Application Directions

Apply **HELENA® XL 2G** evenly over the turfgrass area. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application. For best results use application equipment designed to uniformly broadcast granular herbicides. More uniform application may be achieved by spreading half the required amount of product over the area and then applying the remaining half in swaths at right angles to the first application. Calibrate application equipment prior to use, according to manufacturer's directions. Check equipment frequently to make sure it is working properly and distributing granules uniformly.

Reseeding

Herbicides that control annual weeds may also affect establishment of desirable turfgrass seedlings. Reseeding should be delayed for at least 6 weeks following application of **HELENA® XL 2G** at the 100 pound per acre rate. When using **HELENA® XL 2G** at the 150 pound per acre rate, reseeding should be delayed 12 to 16 weeks after application. When reseeding, it is essential that proper cultural practices such as soil cultivation and seedbed preparation, irrigation and fertilization be followed. For satisfactory reseeding results following **HELENA® XL 2G** use, the seeding rate should be increased and equipment designed to place seed in full contact with soil (such as the Rogers Aero Seeder) should be employed.

Spreader Settings

(A guide for calibrating spreaders to apply **HELENA® XL 2G** in one pass over turf.)

Note: These settings are provided as *suggested* starting points in calibrating each individual spreader. Since no two spreaders are alike, these settings are intended only as a guide in beginning the calibration process.

Spreader Type	Estimated Spreader Setting Necessary to Apply the Specified Rate of HELENA® XL 2G Per Acre In One Pass	
	100 lb/acre	150 lb/acre
Cyclone: Models B1, 33, 96, BSSB at 200 ft/min. Model 100 at 200 ft/min. Model 93 (based on tractor speed of 4 mph) Model 99 (based on tractor speed of 4 mph) Model BPI (based on tractor speed of 4 mph)	3 1/4 3 1/4 5 4 3/4 4 1/2	3 1/2 3 1/2 6 1/4 5 3/4-6 5 1/4-5 1/2
Gandy: Model 10A series, 6, 8, 10, 11, 12, 20 and 30 ft (based on tractor speed of 5 mph) Model 10T series, 6, 8, 10, 11, 12, 20 and 30 ft (based on tractor speed of 5 mph) Turf Tender, 24, 30, 42 inch (based on tractor speed of 3 mph) 600 Series, 2, 4 and 5 ft (based on tractor speed of 3 mph)	31 33 25 18	37 40 28 22
Lely: Model W and H (based on tractor speed of 4.5 mph)	3	4
Lesco: Lesco Spreader (Note: set 3rd adjustable hole 1 notch from "open")	D 1/2	F
Scott: Rotary Model R-8 Drop Spreader	H 1/2 3 7/8	I 1/4 4 5/8
Spyker: Spyker	3.2	3.6
Vicon: Model 402 (with seed ring) swath width 20 ft, 5 mph speed	24	28
Warren: Model T-7II (based on ground speed of 3.0 mph)	3 1/4	4

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AND LIMITATIONS OF LIABILITY AND REMEDIES**

Read the Conditions of Sale - Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and must be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Agri-Enterprises, LLC (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. To the extent consistent with applicable law, the Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. To the extent consistent with applicable law, the Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

To the extent consistent with applicable law, the exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Agri-Enterprises, LLC's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

To the extent consistent with applicable law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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