



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

April 04, 2025

SENT BY EMAIL

Leah Strayer
leah@pyxisrc.com
LOVELAND PRODUCTS, INC.

Subject: Labeling Notification per Pesticide Registration Notice (PRN) 98-10 - Revision to label to add graphics/company logo to the product registration.
Product Name: LPI 6538
Admin Number: 34704-1125
EPA Receipt Date: 02/20/2025
Action Case Number: 00650529

Dear Leah Strayer:

The U.S. Environmental Protection Agency is in receipt of your application for notification under Pesticide Registration Notice 98-10 for the above referenced product. The EPA has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The labeling submitted with this application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to your 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 EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the 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 EPA find or if it is brought to our attention that a website contains statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

If you have questions, please contact Shanda Bennett via email at bennett.shanda@epa.gov.

Sincerely,

James Parker

James Parker, Team Leader
BPB, BPPD
Office of Pesticide Programs

{Note to Reviewer: Text in brackets [] denotes optional text. In instances where a word or phrase has multiple optional text options, at least one will be used to ensure that the entire statement is clear and understandable. Text in braces { } denotes explanatory text that will not be included on the final printed label.

LPI 6538

[Alternate Brand Name: ENDURANCE[™]]

NOTIFICATION

34704-1125

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

04/04/2025

A plant growth regulator for improving photosynthetic efficiency, enhancing metabolic activity and increasing tolerance to abiotic stress of listed commodities

FOR AGRICULTURAL USE ONLY

ACTIVE INGREDIENTS:	By Wt.
Choline Chloride:.....	6.00%
Gamma Aminobutyric Acid (GABA):.....	5.00%
OTHER INGREDIENTS:	89.00%
TOTAL:	100.00%

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

[See] [inside] [label] [booklet] [for] [additional] [precautionary statements][,] [first aid][,] [and] [directions for use] [including] [storage and disposal instructions][.]

FIRST AID	
If in eyes:	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
HOTLINE	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For non-emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 (NPIC Web site: www.npic.orst.edu).	
For a medical emergency involving this product call Nutrien at 1-866-944-8565 (24 hours; 7 days)	

EPA Reg. No. 34704-1125

EPA EST. No. 90866-CA-001

NET CONTENTS: 2.5 Gallons (9.642 L)

[EXP 11/18 Print Code to be placed here]

FORMULATED FOR:

LOVELAND PRODUCTS, INC.®

P.O. BOX 1286

GREELEY, COLORADO 80632-1286

PRECAUTIONARY STATEMENTS HAZARD TO HUMANS AND DOMESTIC ANIMALS

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and 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

- User should wash hands before eating drinking, chewing gum, using tobacco or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

For Terrestrial Uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

DIRECTIONS FOR USE

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

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 State or Tribal 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), notification to workers, and restricted-entry interval. The requirements in this box 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 4 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, socks, shoes, chemical resistant gloves.

PRODUCT INFORMATION

LPI 6538 is a plant growth regulator which facilitates foliar and reproductive growth of crops. LPI 6538 improves plant health by improving the capture of photosynthetic energy, increasing metabolic activity, and preserving cell membrane integrity.

LPI 6538 may be used in routine applications, or as needed to improve tolerance to temperature extremes and other abiotic stressors.

Application Rates

Optimum product efficacy is dependent on product concentration in the spray solution. Application rates are based on a 0.5% concentration target.

Mix the specified amount of LPI 6538 in water to create a 0.35 - 0.65% solution and apply with sufficient volume for uniform and thorough coverage of foliage and/or fruit. Refer to the specific mixing rates in the table below.

Range Gal/A (Gallons Per Acre)	Gal/A (Gallons Per Acre)	0.5% Rate	Use Rate	12 oz	24 oz	36 oz
0-25	15	9.6	12 oz	0.63%		
	20	12.8		0.47%		
	25	16.0		0.38%		
26-50	30	19.2	24 oz		0.63%	
	35	22.4			0.54%	
	40	25.6			0.47%	
	45	28.8			0.42%	
	50	32.0			0.38%	
51-75	60	38.4	36 oz			0.47%
	70	44.8				0.40%
	75	48.0				0.38%
Over 75	80	40.96	0.4% v/v			
	100	51.2				
	150	76.8				
	200	102.4				

CROPS

APPLICATION INSTRUCTIONS	
Crop	Application Timing
Berry and Small Fruit including Blackberry, Blueberry, Caneberry, Kiwi and Raspberry. See instructions and rates for Grape and Strawberry below.	1st application: From leaf out until full bloom
	Repeat application at 10- to 14-day interval as conditions dictate
Brassica Vegetables including Broccoli, Cabbage, Cauliflower and Mustard greens	Foliar application: Apply to achieve full coverage
	1st application: At 2- to 4- true leaf stage Repeat application at 10- to 14-day interval as conditions dictate
Bulb Vegetables including Garlic, Leek, Onion	Foliar application: Apply to achieve full coverage
	1st application: At 2- to 4- true leaf stage Repeat application at 10- to 14-day interval as conditions dictate
Corn ⁽¹⁾⁽²⁾ (field, pop, sweet)	1st application: From 10 leaves up until full tassel
	Second application may be made 14 days later
Citrus Fruit including Grapefruit, Lemon, Lime, Sweet Orange and Tangerine	1st application: At 10% to full bloom
	May repeat application at 10 to 14-day interval as conditions dictate
Cotton, acala, pima, and short staple varieties	1st application: Pin head square
	May repeat application at 10- to 14-day interval as conditions dictate
Cucurbit Vegetables including Cantaloupe, Cucumber, Honeydew, Muskmelon, Squash (summer and winter) and Watermelon	1st application: Just prior to first bloom
	May repeat application at 10- to 14-day interval as conditions dictate
Fruiting vegetables, such as Tomato, Eggplant, and Pepper	1st application: Just prior to first bloom
	May repeat application at 10- to 14-day interval as conditions dictate
Grape	1st application: At bud swell to full bloom
	Repeat applications may be made at 10- to 14-day interval if conditions reoccur or temp exceeds 90 °F

Non-Grass animal feed and hay such as: Alfalfa, Clover, and Vetch	1st application: At 4 inches of new growth
	Repeat application between cuttings as needed.
Herbs and Spices including Basil, Dill, Mustard and Sage	1st application: At 2- to 4- leaves
	Repeat application may be made on 14-day interval as conditions dictate
Leafy Vegetables including Celery, Head and Leaf Lettuce, Kale and Spinach	Apply after transplant recovery or early vegetative stage (direct seeded)
	Repeat applications may be made at 10- to 14-day interval if conditions reoccur
Legume Vegetables (succulent and dried) including Beans (all types), Peas, and Soybeans ⁽¹⁾⁽²⁾	1st application: At 10% bloom
	May repeat application at 10- to 14-day interval as conditions dictate
Oil seed crops including Canola ⁽¹⁾⁽²⁾ , Flax, and Sunflower	1st application: Just prior to first bloom
	May repeat application 10 to 14 days later
Peanut	1st application: At 2- to 4- leaves
	May repeat application 10- to 14 days later
Pome Fruits including Apple and Pear	1st application: From green-tip to full bloom
	Second application may be made 14 days later as conditions dictate
Root and Tuber Vegetables including Carrot, Ginseng, Horseradish, Parsley (turnip-rooted), Potato, Radish, Sugar Beet, Sweet Potato, Turnip	1st application: From 4 leaves to tuber initiation
	Second application may be made 10- to 14- days later as conditions dictate
Small grains, such as barley, millet, oat, rice, rye, sorghum, and wheat	1st application: At growth stage Feekes 3-4
	Repeat application at 10- to 14-day interval if needed
Strawberry	1st application: Apply after transplant recovery up to first bloom
	May repeat application at 10 to 14-day interval as conditions dictate
Stone fruits, such as cherry, peach, nectarine, apricot, and plum	1st application: From bud swell to full bloom
	May repeat application at 10 to 14-day interval as conditions dictate

Tree nuts, such as almond, hazel nuts, pistachio, walnut, and pecan	1st application: From green bud to full bloom
	May repeat application at 10 to 14-day interval as conditions dictate

⁽¹⁾This product can be tank mixed with glyphosate products registered for use on Roundup Ready® crops.

⁽²⁾This product can be tank mixed with products registered for use on LibertyLink® crops.

PRE-TRANSPLANT

To reduce the effects of transplant shock, LPI 6538 can be applied 2 to 3 days pre-transplant to plants in a greenhouse flat, containers or pre-dug

PRE-TRANSPLANT APPLICATION INSTRUCTIONS			
Crop	Application Timing	Rate/ 1000 square feet	Water Volume/1000 sq ft
Berries and Small Fruit Citrus Fruit Fruiting Vegetables Grapes Leafy Vegetables Pome Fruits Strawberry Stone Fruits Tree Nuts	2 to 3 days pre-transplant	0.25 to 0.5 fl oz	50.0 to 100 oz

TURFGRASS

For Turfgrass: Apply LPI 6538 by ground spray according to the table below using 1.0 to 5.0 gallons of water per 1000 square feet. Use LPI 6538 for weather and compaction stressed turf growth at the dilution rate of 1:200 (6.4 fluid ounces product per 10.0 gallons water).

Turf	Amount (LPI 6538 /Gal Water/1000 Sq Ft*)	Application Directions and Timing
Warm climate grasses including Bermuda, Bermuda hybrids, Centipede, St. Augustine & similar warm season grasses	0.64 to 3.2 fl oz/1.0 to 5.0 gal of water/1000 sq ft	Make applications at 2-week intervals during the growing season
Dichondra	0.64 to 3.2 fl oz/5.0 to 10.0 gal of water/1000 sq ft	Make applications at 2-week intervals during the growing season
Cool Climate grasses including Bluegrass, Fescue, Rye, and similar cool season grasses	0.64 to 3.2 fl oz/1.0 to 5.0 gal of water/1000 sq ft	Make applications at 2-week intervals during the growing season

*Apply 0.64 fluid ounce per gallon.

GREENHOUSE AND NURSERY

Differences in responsiveness may vary from one cultivar to another or from one set of growing conditions to another. Unless previous experience dictates otherwise, prior to widespread use, test a small number of plants from each cultivar to verify desired efficacy. For plants that have become heat or cold stressed, follow the application rate and timing recommendation below in the following tables.

Foliar Plants

Aglaonema	Aphelandra	Dieffenbachia	Fittonia	Maranta	Philodendron	Schefflera	Syngonium
Ajuga	Caladium	Dracaena	Gynura	Palms	Pilea	Schlumbergera	Tradescantia
Anthurium	Cissus	Ficus	Hoya	Peperomia	Pothos	Spathiphyllum	Similar foliage plants
Application Rates and Timing: Dilute 6.4 fluid ounce of LPI 6538 in 10.0 gallons of water (1:200 dilution rate) when plants have at least 4 leaves. Repeat applications at 10- to 14-day intervals when required. Apply the last spray 1 to 2 weeks prior to sale. Uniform and thorough spray coverage is necessary for best results.							

Bedding and Flowering Plants

Abutilon	Carnation	Coral Bells	Foxglove	Gladiolus	Lily	Osmachus	Salvia	Vinca
Aglais	Champaca	Cyclamen	Fuchsia	Gloxinia	Lupine	Petunia	Scabiosa	Zinnia
Alyssum	Chrysanthemum	Dahlia	Gardenia	Impatiens	Marigold	Poinsettia	Sedum	Similar plants
Calceolaria	Cineraria	Delphinium	Gazania	Iris	Michelia	Portulaca	Sempervivum	
Canna	Columbine	Dianthus	Geranium	Jasminum	Monarda	Roses	Tulips	
Application Rates and Timing: Dilute 6.4 fluid ounce of LPI 6538 in 10.0 gallons of water (1:200 dilution rate) when plants have at least 4 leaves. Repeat applications at 10- to 14-day intervals when required. Apply the last spray 1 to 2 weeks prior to sale. Uniform and thorough spray coverage is necessary for best results.								

Woody Ornamentals

Arborvitae	Azalea	Carissa	English ivy	Juniper	Pine	Rhododendron	Similar plants
Aucuba	Boxwood	Chinese magnolia	Holly	Maple	Podocarpus	Viburnum	
Application Rates and Timing: Dilute 6.4 fluid ounce of LPI 6538 in 10.0 gallons of water (1:200 dilution rate) when plants have at least 4 leaves. Repeat applications at 10 to 14-day intervals when required. Apply the last spray 1 to 2 weeks prior to sale. Uniform and thorough spray coverage is necessary for best results.							

Tree Fruits (Not for Residential Use)

Apple	Cherry	Grape	Lemon	Mango	Persimmon	Starfruit
Asian pear	Fig	Jujubee	Litchi	Orange	Plum	Similar plants
Apricot	Guava	Kumquat	Longara	Peach	Prunes	
Application Rates and Timing: Dilute 6.4 fluid ounce of LPI 6538 in 10.0 gallons of water (1:200 dilution rate) when plants have leafed out. Repeat applications at 10 to 14-day intervals when required. Apply the last spray 1 to 2 weeks prior to sale. Uniform and thorough spray coverage is necessary for best results.						

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep containers tightly closed when not in use.

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 Containers 5 gallons or less:]] Nonrefillable container. Do not reuse or refill this container. 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.]

[[Nonrefillable Containers greater than 5 gallons:]] Nonrefillable container. Do not reuse or refill this container. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.]

For chemical spill, leak, fire or exposure, call CHEMTREC at 1-800-424-9300.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL AND TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THIS PRODUCT IS SOLD "AS IS," AND LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

IN THE UNLIKELY EVENT THAT BUYER OR USER BELIEVES THAT LOVELAND PRODUCTS, INC. HAS BREACHED A WARRANTY CONTAINED IN THIS LABEL AND TO THE EXTENT REQUIRED BY APPLICABLE LAW, BUYER OR

USER MUST SEND WRITTEN NOTICE OF ITS CLAIM TO THE FOLLOWING ADDRESS: LOVELAND PRODUCTS, INC., ATTENTION: LAW DEPARTMENT, P.O. BOX 1286, GREELEY, CO 80632-1286.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

Endurance is a trademark of Loveland Products, Inc.

{OPTIONAL GRAPHICS}

{Note to Reviewer: The below graphic may appear anywhere on the label. Further, the below graphic may appear in various colors or black/white; not to impact legibility.}

