

2217-911

06/11/2008

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg. Number: 2217-911

Date of Issuance: 11 JUN 2008

NOTICE OF PESTICIDE:

X Registration
Reregistration
(under FIFRA, as amended)

Term of Issuance: Conditional

Name of Pesticide Product: EH-1459 Liquid Weed and Feed

Name and Address of Registrant (include ZIP Code):

PBI/Gordon Corporation
1217 West 12th St.
P.O. Box 014090
Kansas City, MO 64101-0090

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A), provided that you make the following revisions:

- 1. Personal Protective Equipment: Add "gloves" to the list of PPE
2. Agricultural Use Requirements box: Add "protective eyewear" to the list of PPE required for early re-entry.
3. Warranty statement: Add "To the extent consistent with applicable law," to the beginning of the second sentence. Change the sentence beginning, "In no case shall..." to read, "To the extent consistent with applicable law, the manufacturer shall not be liable...."
4. Add the registration number 2217-911
5. Submit and/or cite all data required for the registration of this product when the Agency requires all registrants of similar product to submit data.

Comments continued on page 2 of this registration notice

Signature of Approving Official:

Joanne I. Miller
Product Manager 23
Herbicide Branch
Registration Division (7505P)
EPA Form 8570-6

Handwritten signature: Joanne I. Miller

Date:

11 JUN 2008

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EPA Reg. No. 83520-12

Comments, Continued:

6. Submit storage stability (830.6320) and Corrosion Characteristics (830.6317) studies within 1 year of the date of this registration notice.
7. Submit one copy of the final printed label before the product is released for shipment

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA Sec. 6(e). Your release of the product for shipment constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

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# EH-1459 LIQUID WEED AND FEED

**ACTIVE INGREDIENTS:**

2,4-D, dimethylamine salt ..... 2.57%

2,4-D, diethanolamine salt ..... 1.26%

**INERT INGREDIENTS:** ..... 96.17%

**TOTAL** 100.00%

**THIS PRODUCT CONTAINS:**

0.271 lbs. 2,4-dichlorophenoxyacetic acid equivalent per gallon or 2.99%

Isomer Specific by AOAC Methods.

GUARANTEED ANALYSIS	
15-0-0	
Total Nitrogen (N).....	15.0%
15.0% Urea Nitrogen	
Derived from urea.	

**ACCEPTED**  
**with COMMENTS**  
**In EPA Letter Dated:**  
**11 JUN 2008**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

2217-911

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

See side (back) panel for additional Precautionary Statements and First Aid.

**NET CONTENTS: 2.5 U.S. GALLONS**  
**NET WEIGHT: 22.7 Pounds (10.3 kilograms)**

FL#987

(EPA File Symbol No. 2217-xxx)

EPA Est. No. 2217-KS-1

**MANUFACTURED BY:**



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**READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.**

**PRECAUTIONARY STATEMENTS**

**Hazards To Humans And Domestic Animals:**

**CAUTION:**

**Personal Protective Equipment (PPE)**

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

- long-sleeved shirt and long pants,
- shoes and socks.

See engineering controls for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Control Statements:**

*Containers over 1 gallon and less than 5 gallons: Mixers and loaders who do not use a mechanical system (probe and pump) to transfer the contents of this container must wear coveralls or a chemical-resistant apron in addition to the other required PPE.*

**User Safety Recommendations:**

Users should:

- Users 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. If pesticide gets on skin, wash immediately with soap and water.
- Users should remove PPE immediately after handling this product Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**First Aid**

<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 - 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-800-5556 for emergency medical treatment information.</p>	

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**Environmental Hazards:**

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark except as noted on appropriate labels. 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.

This chemical 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**

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 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 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.

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, wear:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- 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.

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

**PRODUCT DESCRIPTION:**

- Liquid Weed & Feed containing 2,4-D. Provides excellent weed control and green-up with no grazing restrictions for livestock when used as directed.
- Controls annual, biennial, and perennial broadleaf weeds
- Where to Use: Pastures, lawns and around outbuildings.

**CULTURAL TIPS AND NOTES:**

<b>When to Apply</b>	<p><i>Annual weeds</i></p> <p><i>Biennial weeds</i></p> <p><i>Perennial weeds</i></p> <p><i>Established grass</i></p> <p><i>Newly seeded areas</i></p>	<ul style="list-style-type: none"> <li>• Spring or fall with active growth</li> <li>• Spring or fall during seedling to rosette stage</li> <li>• Spring or fall during bud to bloom stage</li>   <li>• Apply when daytime temperatures are below 85°F.</li> <li>• Apply this product to newly seeded grasses when well-established (approximately 6 weeks after seedling emergence) or after the third mowing.</li> </ul>
<b>Seeding intervals:</b>	<b>Lawns and turfgrass</b>	<ul style="list-style-type: none"> <li>• The treated area can be seeded at 4 weeks after the application of this product.</li> </ul>
	<b>Pasture renovation</b>	<ul style="list-style-type: none"> <li>• Wait 4 weeks before inter-seeding.</li> </ul>
<b>Irrigation:</b>	<p><i>Non-stressed turfgrass</i></p> <p><i>Stress from high temperatures, drought, insects or diseases.</i></p>	<ul style="list-style-type: none"> <li>• Adequate soil moisture and favorable growing conditions enhance the performance of this product.</li> <li>• Avoid applications of this product when turfgrasses are under stress since injury may result. If dry conditions exist, schedule irrigations (watering) before and after the application. For best results, delay the irrigation until approximately 24 hours after application of this product.</li> </ul>
<b>Mowing:</b>		<ul style="list-style-type: none"> <li>• Delay mowing 2 days before and until 1-2 days after the application of this product.</li> </ul>

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**I. GRASS PASTURES**

**Description and application rates for established grass pastures:**

<i>Pastures established with these grasses may be treated:</i>	bermudagrass, bluegrass, brome, bahiagrass, canarygrass, tall fescue, orchardgrass, ryegrass, timothy and wheatgrass
<i>Do not use on these grasses:</i>	carpetgrass, cereal grains, buffalograss, St. Augustinegrass, forage sorghum and sudangrass
<i>Do not use on these legumes:</i>	Alfalfa, clovers, lespedezas, trefoils, wild winter peas, vetch and grass-legume mixtures

EH-1459 Liquid Weed and Feed will control or suppress annual, biennial, perennial and difficult-to-control broadleaf weeds in pastures. A partial list of broadleaf weeds is presented as follows:

*Annuals:* cocklebur (common), jimsonweed, knotweed, kochia, wild lettuce, lambsquarters (common), mallow (common), marestalk (horseweed), morningglory, pennycress (field), pepperweed (Virginia), pigweed, (redroot, rough and smooth), puncturevine, ragweed, (common and giant), smartweed (Pennsylvania), sneezeweed (bitter), sowthistle (annual), sunflower (common), velvetleaf, waterhemp

*Biennials:* burdock (common, cockle, white), henbit, plantain (bracted), ragwort (tansy), starthistle (yellow), sweetclover, thistle (bull, milk, musk and plumeless).

*Perennials:* alfalfa, bindweed (field and hedge), buttercup (tall), bracken fern, chickweed, clover (white), dandelion, dock (curly and broadleaf), horsenettle, ground ivy, ironweed, knapweed, plantain (buckhorn), pokeweed, ragweed (western), smartweed (swamp), sowthistle, thistle (Canada), vetch, yarrow (common)

*Application rate:* Use 2.5 gallons of EH-1459 Liquid Weed and Feed per 15,000 sq.ft. (0.34 acre). Or, use 7.25 gallons of EH-1459 Liquid Weed and Feed per acre.

Equal (equivalent) rates of application and coverage for pastures are listed as follows:

Amount of EH-1459 Liquid Weed and Feed	Treated Area, sq.ft.	Treated Area, Acres
1 gallon	6,000 sq.ft.	0.14 acre
2 gallons	12,000 sq.ft.	0.28 acre
<b>2.5 gallons</b>	<b>15,000 sq.ft.</b>	<b>0.34 acre</b>
5.0 gallons	30,000 sq.ft.	0.68 acre
<b>7.25 gallons</b>	<b>43,560 sq.ft.</b>	<b>1.00 acre</b>

**Spray preparation:**

- Add one-half (1/2) of the amount of water required to the sprayer tank. Add EH-1459 Liquid Weed and Feed.
- Add the balance of water.
- Use a 1:5 dilution of EH-1459 Liquid Weed and Feed in water. To prepare 15 gallons of spray solution, add 2.5 gallons of EH-1459 Liquid Weed and Feed to 12.5 gallons of water and apply uniformly to 0.34 acre. A quick-mix chart for spray preparation is presented below:

Amount of EH-1459 Liquid Weed and Feed	Amount of water, gallons	Total Spray Mix Volume (gal.)	Treated Area, Acres
1 gallon	5.0 gallons	6	0.14 acre
2 gallons	10.0 gallons	12	0.28 acre
<b>2.5 gallons</b>	<b>12.5 gallons</b>	<b>15</b>	<b>0.34 acre</b>
4.0 gallons	20.0 gallons	24	0.56 acre
<b>5.0 gallons</b>	<b>25.0 gallons</b>	<b>30</b>	<b>0.68 acre</b>
7.25 gallons	36.5 gallons	43.75	1.00 acre

**Spray equipment:**

Spray equipment includes hand-operated sprayers, tractor-mounted sprayers, pull type sprayers, 3-point lawn and garden sprayers, utility sprayers, ATV (all-terrain vehicle) sprayers, and low pressure boom sprayers are suggested.

Please refer to the owner's manual of your spray equipment for calibration instructions. You may also visit [pbigordon.com/consumer](http://pbigordon.com/consumer) for information regarding the most popular sprayer brands.

**Pasture management, grazing interval and harvest interval:**

**Limitations for post emergent applications to established grass pastures not in agricultural production.**

<b>Maximum application rate</b>	2.5 gallons of product per 0.34 acre or 7.25 gallons of product per 1.0 acre
<b>Maximum number of applications per year</b>	2
<b>Minimum days between applications<sup>1</sup></b>	30 days
<b>Maximum application rate per acre per application</b>	2.0 pounds of 2,4-D acid equivalent per acre per application
<b>Maximum seasonal rate per acre<sup>2</sup></b>	14.5 gallons of product per acre per season
<b>Pregrazing interval</b>	0 days
<b>Preharvest interval<sup>3</sup></b>	7 days

Footnote 1: Do not apply within 30 days of the previous application.

Footnote 2: Do not exceed the maximum seasonal rate of 14.5 gallons of product or 4.0 pounds of 2,4-D acid equivalent per acre per season.

Footnote 3: Do not cut forage for hay within 7 days of application. If grass is to be cut for hay, the Agricultural Use Requirements for the Worker Protection Standard (WPS) [see page xx] are applicable.



**II. FARM PREMISES AND FARMSTEADS**

This product may be applied to broadleaf weeds around farm premises and farmsteads including:

Farm premises	<ul style="list-style-type: none"> <li>• around outbuildings, equipment parking areas and farmyards</li> <li>• on vacant lots, yards, lawns and fringe areas</li> <li>• along fences, walkways, private roads and driveways</li> </ul>
Farmsteads	<ul style="list-style-type: none"> <li>• around buildings, patios, houses and areas associated with home life along fences, driveways, parking areas and roads</li> </ul>
Lawns	<ul style="list-style-type: none"> <li>• on vacant lots, yards, lawns and fringe areas</li> </ul>

**Established turfgrass:** EH-1459 Liquid Weed and Feed can be applied as a broadcast treatment to the following established turfgrass species:

Cool season turfgrass	Warm season turfgrass
Kentucky bluegrass	Bermudagrass, common
Perennial ryegrass	Bahiagrass
Fine fescues in blends/mixtures of red, hard and chewing fescue	Zoysiagrass
Tall fescue	

Do not apply EH-1459 Liquid Weed and Feed to the following:

Cool season turfgrass	Warm season turfgrass	Other areas
Bentgrass, creeping	St. Augustinegrass	Lawns with desirable clovers or legumes
Bentgrass, colonial	Centipede grass	gardens and vegetables
	Carpetgrass	ornamental plants including flowers, trees, shrubs, hedges, woody ornamentals, groundcovers established in landscape plantings

Typical pasture weeds require a higher application rate to control. These lawn rates are designed for economical control of most common weeds in yards.

**Application rate:** Use 2.5 gallons of EH-1459 Liquid Weed and Feed per 20,000 sq.ft. (0.45 acre). Or, use 5.5 gallons of EH-1459 Liquid Weed and Feed per acre.

Equal (equivalent) rates of application and coverage for turfgrass are listed as follows:

Amount of EH-1459 Liquid Weed and Feed	Treated Area, sq.ft.	Treated Area, Acres
16 fl. oz. or 1 pint /1,000 sq.ft.	1,000 sq.ft.	0.02 acre
<b>1 gallon</b>	<b>8,000 sq.ft.</b>	<b>0.18 acre</b>
2 gallons	16,000 sq.ft.	0.37 acre
<b>2.5 gallons</b>	<b>20,000 sq.ft.</b>	<b>0.45 acre</b>
5.0 gallons	40,000 sq.ft.	0.92 acre
<b>5.5 gallons</b>	<b>43,560 sq.ft.</b>	<b>1.00 acre</b>

**Spray preparation:**

- Use a 1:5 dilution of EH-1459 Liquid Weed and Feed in water. To prepare 15 gallons of spray solution, add 2.5 gallons of EH-1459 Liquid Weed and Feed to 12.5 gallons of water and apply uniformly to 0.45 acre. A quick-mix chart for spray preparation is presented below:

Amount of EH-1459 Liquid Weed and Feed	Amount of Water, gallons	Total Spray Mix Volume (gals.)	Treated Area, Acres
1 gallon	5 gallons	8	0.18 acre
2 gallons	10 gallons	12	0.37 acre
<b>2.5 gallons</b>	<b>12.5 gallons</b>	<b>15</b>	<b>0.45 acre</b>
4.0 gallons	20.0 gallons	24	0.72 acre
<b>5.0 gallons</b>	<b>25 gallons</b>	<b>30</b>	<b>0.92 acre</b>
5.5 gallons	27.5 gallons	33	1.00 acre

**Spray equipment:**

See the spray equipment descriptions in the section for pastures.

**Turfgrass management**

**Limitations for post emergent applications to turfgrass established on farmsteads and farm premises.**

<b>Maximum application rate</b>	2.5 gallons of product per 0.45 acre Or 5.5 gallons of product per 1.0 acre
<b>Maximum number of applications per year</b>	2
<b>Minimum days between applications</b>	30 days
<b>Maximum application rate per acre per application</b>	1.5 pounds of 2,4-D acid equivalent per acre per application
<b>Maximum seasonal rate per acre<sup>1</sup></b>	11.0 gallons of product per acre per season

Footnote 1: Do not exceed the maximum seasonal rate of 11.0 gallons of product or 3.0 pounds of 2,4-D acid equivalent per acre per season, excluding spot treatments.

**Spray preparation for small turfgrass areas, spot treatments or as a follow-up treatment with hand-operated sprayers.**

Use a 1:5 dilution of EH-1459 Liquid Weed and Feed in water. To prepare 3 gallons of spray solution, add 4 pints of EH-1459 Liquid Weed and Feed to 2.5 gallons of water and apply uniformly to 4,000 sq.ft. A quick-mix chart for spray preparation is presented below:

Spray preparation for backpack sprayers, knapsack sprayers and hand-operated pump sprayers.

Area to be treated, sq. ft.	Amount of EH-1459 Liquid Weed and Feed, pints	Amount of water, gallons
1,000 sq. ft.	1 pint	2.5 quarts
2,000 sq. ft.	2 pints	1.25 gallons
4,000 sq. ft.	4 pints	2.5 gallons
5,000 sq. ft.	5 pints	3.0 gallons
6,000 sq. ft.	6 pints	4.0 gallons
8,000 sq. ft.	8 pints (1 gallon)	5.0 gallons

Equal measures: 1 pint = 16 fl. oz.

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## **SPRAY DRIFT MANAGEMENT**

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application 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.

### *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 stable 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, 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 might 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 ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

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

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**State fertilizer labeling requirements:**

- A lawn will typically utilize 1 to 4 pounds of nitrogen per 1,000 square feet each growing season. When applied as directed this product supplies (0.17) pounds of nitrogen per 1,000 square feet with each application. Use this product in conjunction with an additional fertilization program to provide at least 1 pound of nitrogen per 1,000 square feet each growing season. Consult your local agricultural extension agent for the proper amount of nitrogen to be applied in your area.
- *Fertilizer Labeling Requirements by Association of American Plant Food Control Officials (AAPFCO):*

Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.htm>.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE**

Store in original container.

**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.

**CONTAINER DISPOSAL**

Plastic containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities by burning. If burned, stay out of smoke.

GORDON'S is a registered trademark of PBI/Gordon Corporation.  
FL#987

**LIMITED WARRANTY STATEMENT**

FOR USE ONLY AS DIRECTED. THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED. IN NO CASE SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. If these terms are not acceptable, return this product unopened immediately to the point of purchase, and the purchase price will be refunded in full. The terms of this LIMITED WARRANTY STATEMENT cannot be varied by any written or verbal statements or agreements at the point of sale or elsewhere.

**Appendix**

**I. Advertising claims that may be presented on the container labels or promotional materials to support this product:**

- Weed and feed your pasture in one easy step
- No waiting period between application and grazing
- Use on lawns and pastures
- For pastures, 2.5 gallons of product covers 15,000 square feet and /or 1.0 gallon of product covers 6,000 square feet
- For lawns, 2.5 gallons of product covers 20,000 square feet and /or 1.0 gallon of product covers 8,000 square feet
- Perfect for pull-behind or ATV sprayers
- Save time with one-step weed and feed
- Greens up pastures and kills weeds too
- Improves pasture quality
- Animals may be returned to pasture after spray has dried

**II. Technical information that may be presented in bulletins and brochures that support this product.**

**a. Alternate spray volumes expressed as gallons per 1,000 sq.ft.**

**Chart 1A:** Approximate spray volumes or gallons of spray solution per 1,000 sq.ft. with nozzle spacing on the boom at 20 inches at spray pressures of 25-40 psi.

	Pressure, psi							
Nozzle output as gallons per minute, GPM		2 mph	3 mph	4 mph	5 mph	6 mph	7 mph	8 mph
0.16	25	0.55	0.36	0.27	0.22	0.18	0.15	0.14
0.17	30	0.59	0.39	0.30	0.24	0.20	0.17	0.15
0.20	40	0.68	0.46	0.34	0.27	0.23	0.20	0.17

**Chart 2A:** Approximate spray volumes or gallons of spray solution per 1,000 sq.ft. with nozzle spacing on the boom at 17.5 inches at spray pressures of 25-40 psi.

	Pressure, psi							
Nozzle output as gallons per minute, GPM		2 mph	3 mph	4 mph	5 mph	6 mph	7 mph	8 mph
0.16	25	0.63	0.42	0.31	0.25	0.21	0.18	0.16
0.17	30	0.66	0.44	0.33	0.26	0.22	0.19	0.17
0.20	40	0.78	0.52	0.39	0.31	0.26	0.22	0.20

Note: These charts estimate the flow rate of standard flat fan tips (8002), and operators should check their calibrations under field conditions.

**b. Spray equipment for fixed boom sprayers:**

Standard flat fan nozzles (tips) are used on spray equipment for broadcast applications. A low pressure flat fan nozzle known as '8002' is used commonly on spray equipment manufactured by Fimco Industries and other brands.

Usually, these flat fan nozzles are spaced at 17.5 -20 inches on the boom and deliver medium to coarse spray droplets at operating pressures of 25-40 psi. The nozzle flow rate, operating pressure and ground speed of the sprayer are important variables in determining the amount of spray solution applied per acre. The nozzle flow rate is expressed as gallons per minute (GPM), and these output ratings are available from the catalogs of the equipment manufacturer. Typically, the nozzle output or flow rate can range from 0.15-0.30 gallons per minute (GPM). Refer to Charts 1 and 2 for the estimated gallons of spray solution per acre based on the flow rate of these standard flat fan tips (8002).

**Spray volumes and spray preparation:**

*Application rate:* Use 7.25 gallons of EH-1459 Liquid Weed and Feed per acre.

*Spray volume:* Spray volumes of 10 gallons per acre or more are acceptable for broadcast applications of EH-1459 Liquid Weed and Feed.

Determine the amount of EH-1459 Liquid Weed and Feed needed for the acres to be treated or for each tank of spray solution.

Use these two equations to determine the amount of EH-1459 Liquid Weed and Feed needed:

- 1) Area to be treated X Application rate =Amount of EH-1459 Liquid Weed and Feed  
1 acre X 7.25 gallons of product / acre = 7.25 gallons of EH-1459 Liquid Weed and Feed
- 2) Area to be treated X Desired spray volume = Total spray solution to be prepared  
1 acre X 20 gallons per acre= **20 gallons of spray solution** needed to treat 1 acre

Select the spray volume for your equipment that you want to use from Charts 1 and 2. Determine the nozzle spacing on the boom and determine the nozzle flow rate. The spray volume presented in Charts 1 and 2 are defined as the gallons of total spray solution (water + product) to be applied per treated acre.

**Chart 1:** Approximate spray volumes or **gallons of spray solution per acre** with nozzle spacing on the boom at 20 inches at spray pressures of 25-40 psi.

	Pressure, psi							
Nozzle (8002) output as gallons per minute, GPM		2 mph	3 mph	4 mph	5 mph	6 mph	7 mph	8 mph
0.16	25	23.8	15.8	11.7	9.4	7.8	6.7	5.9
0.17	30	25.6	16.8	12.9	10.3	8.6	7.4	6.4
0.20	40	29.6	19.8	14.9	11.9	9.9	8.5	7.4

**Chart 2: Approximate spray volumes or gallons of spray solution per acre with nozzle spacing on the boom at 17.5 inches at spray pressures of 25-40 psi.**

	Pressure, psi							
Nozzle (8002) output as gallons per minute, GPM		2 mph	3 mph	4 mph	5 mph	6 mph	7 mph	8 mph
0.16	25	27.2	18.1	13.6	10.9	9.1	7.8	6.8
0.17	30	28.9	19.2	14.4	11.5	9.6	8.2	7.2
0.20	40	33.9	22.6	17.0	13.6	11.3	9.7	8.5

Note: These charts estimate the flow rate of standard flat fan tips (8002), and operators should check their calibrations under field conditions.

*Example based on area:* You may want to apply a broadcast application with a spray volume of 20 gallons per acre at a speed of 3 mph using nozzles spaced at 20 inches on the boom with an operating pressure of 40 psi. See Chart 1. The indicated spray volume of 19.8 gallons of spray solution per acre includes the amount of water plus the amount of EH-1459 Liquid Weed and Feed to be applied uniformly to one acre. To prepare 20 (19.8) gallons of spray solution, add 7.25 gallons of EH-1459 Liquid Weed and Feed to 12.75 gallons of water to treat one acre.

*Example for each tank of spray solution:* You have a 15-gallon spray tank using nozzles spaced at 20 inches with an operating pressure of 30 psi. See Chart 1. Select the ground speed of 5 mph and determine that the spray volume will be 10.3 gallons of spray solution per acre. The indicated spray volume of 10.3 gallons of spray solution per acre includes the amount of water plus the amount of EH-1459 Liquid Weed and Feed to be applied uniformly to one acre. To prepare 10.3 gallons of spray solution, add 7.25 gallons of EH-1459 Liquid Weed and Feed to 3.0 gallons of water to treat one acre.

**c. Spray volumes and spray preparation:**

*Application rate:* Use 5.5 gallons of EH-1459 Liquid Weed and Feed per acre.

*Spray volume:* Spray volumes of 10 gallons per acre or more are acceptable for broadcast applications of EH-1459 Liquid Weed and Feed.

Determine the amount of EH-1459 Liquid Weed and Feed needed for the acres to be treated or for each tank of spray solution.

Use these two equations to determine the amount of EH-1459 Liquid Weed and Feed needed:

- Area to be treated X Application rate = Amount of EH-1459 Liquid Weed and Feed  
1 acre X 5.5 gallons of product / acre = 5.5 gallons of EH-1459 Liquid Weed and Feed
- Area to be treated X Desired spray volume = Total spray solution to be prepared  
1 acre X 20 gallons per acre = **20 gallons of spray solution** needed to treat 1 acre

Select the spray volume for your equipment that you want to use from Charts 3 and 4. Determine the nozzle spacing on the boom and determine the nozzle flow rate. The spray volume presented in Charts 3 and 4 are defined as the gallons of total spray solution (water + product) to be applied per treated acre.

**Chart 3: Approximate spray volumes or gallons of spray solution per acre with nozzle spacing on the boom at 20 inches at spray pressures of 25-40 psi.**

	Pressure, psi							
Nozzle (8002) output as gallons per minute, GPM		2 mph	3 mph	4 mph	5 mph	6 mph	7 mph	8 mph
0.16	25	23.8	15.8	11.7	9.4	7.8	6.7	5.9
0.17	30	25.6	16.8	12.9	10.3	8.6	7.4	6.4
0.20	40	29.6	19.8	14.9	11.9	9.9	8.5	7.4

**Chart 4: Approximate spray volumes or gallons of spray solution per acre with nozzle spacing on the boom at 17.5 inches at spray pressures of 25-40 psi.**

	Pressure, psi							
Nozzle (8002) output as gallons per minute, GPM		2 mph	3 mph	4 mph	5 mph	6 mph	7 mph	8 mph
0.16	25	27.2	18.1	13.6	10.9	9.1	7.8	6.8
0.17	30	28.9	19.2	14.4	11.5	9.6	8.2	7.2
0.20	40	33.9	22.6	17.0	13.6	11.3	9.7	8.5

Note: These charts estimate the flow rate of standard flat fan tips (8002), and operators should check their calibrations under field conditions.

*Example based on turfgrass area:* You may want to apply a broadcast application with a spray volume of 20 gallons per acre at a speed of 3 mph using nozzles spaced at 20 inches on the boom with an operating pressure of 40 psi. See Chart 3. The indicated spray volume of 19.8 gallons of spray solution per acre includes the amount of water plus the amount of EH-1459 Liquid Weed and Feed to be applied uniformly to one acre. To prepare 20 (19.8) gallons of spray solution, add 5.5 gallons of EH-1459 Liquid Weed and Feed to 14.5 gallons of water to treat one acre.

*Example for each tank of spray solution for turfgrass:* You have a 15-gallon spray tank using nozzles spaced at 20 inches with an operating pressure of 30 psi. See Chart 3. Select the ground speed of 4 mph and determine that the spray volume will be 10.3 gallons of spray solution per acre. The indicated spray volume of 12.9 gallons of spray solution per acre includes the amount of water plus the amount of EH-1459 Liquid Weed and Feed to be applied uniformly to one acre. To prepare 13 (12.9) gallons of spray solution, add 5.5 gallons of EH-1459 Liquid Weed and Feed to 7.5 gallons of water to treat one acre.