

69834-2

05/20/2003

1/12

Read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approval expires 2-28-95



United States  
Environmental Protection Agency  
Washington, DC 20460

Registration  
 Amendment  
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 69834-2	2. EPA Product Manager Diana Horne	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Messenger	PM#	
5. Name and Address of Applicant (Include ZIP Code) EDEN Bioscience Corporation 3830 Monte Villa Parkway Bothell, WA 98021-6942 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: <b>NOTIFICATION</b> EPA Reg. No. _____ Date Reviewed: <u>5-20-03</u> Product Name _____	

Section - II

Reviewed By: [Signature]

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of notification per PR Notice 98-10 to notify EPA of modified label language. Modifications include: revising language for clarity; reformatting; adding tag lines; and noting optional language. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container		<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input checked="" type="checkbox"/> Other (Specify) _____	foil
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container Various		5. Location of Label Directions <input checked="" type="checkbox"/> on product label	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Frederick S. Betz	Title Director of Regulatory Affairs	Telephone No. (include Area Code) (410) 263-0015
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.		6. Date Application Received (Stamped)
2. Signature <u>Frederick S. Betz</u>	3. Title Director of Regulatory Affairs, EDEN Bioscience Corp.	
4. Typed Name Frederick S. Betz	5. Date <u>Feb. 26, 2003</u>	

Changes Highlighted 2/12

Messenger® Master Label Index

Section A: Agricultural Use
Section B: Commercial Seed Treatment
Section C: Non-Agricultural Use

Section A. Agricultural Use

Messenger®

A biochemical pesticide used for plant disease management, insect suppression, and growth enhancement.

Wettable Dry Granules NOTIFICATION

ACTIVE INGREDIENT Date Reviewed: 5/20/03

Harpin Protein: 3.0%

OTHER INGREDIENTS: 97.0%

Total: 100.0% Reviewed By: [Signature]

EPA Reg. No. 69834-2

EPA Est. No. 69834-WA-001

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUCION

EDEN

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.)

Net Weight:



IMPORTANT

BEFORE USING THIS PRODUCT, READ THE ENTIRE PRECAUTIONARY STATEMENTS, DIRECTIONS FOR USE, STORAGE AND DISPOSAL INSTRUCTIONS, GENERAL INFORMATION, USE ADVISORIES, AGRICULTURAL USE REQUIREMENTS, AND CONDITIONS OF SALE AND EXCLUSIVE WARRANTY.

IF THE CONDITIONS OF SALE AND EXCLUSIVE WARRANTY ARE NOT ACCEPTABLE, RETURN THIS PRODUCT UNOPENED WITHIN THIRTY (30) DAYS OF PURCHASE TO THE PLACE OF PURCHASE.

1.0 PRECAUTIONARY STATEMENTS

Hazard to Humans & Domestic Animals

CAUTION

- 1.1 Personal Protective Equipment (PPE): Applicators and other handlers of this product must wear: - Long-sleeved shirt and long pants. - Shoes and socks. - Particulate dust mask, when mixing. 1.2 User Safety Recommendations: Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Environmental Hazards

- 1.3 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 cleaning equipment or disposing of equipment washwaters.

2.0 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 requirement specific to your State or Tribe, consult the agency responsible for pesticide regulation.

3.0 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 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 over long-sleeved shirt and long pants;
- Waterproof gloves; and
- Shoes and socks.

4.0 NOTICES TO USER

- 4.1 Conditions of Sale and Exclusive Warranty: The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness of the product, or other unintended consequences may result because of such factors as horticultural practices, use with other products (unless otherwise expressly provided in the Directions for Use of this product), presence of other materials, the manner of use or application, and various environmental conditions, including but not limited to weather conditions and moisture conditions. All of the aforementioned risks are beyond the control of EDEN Bioscience Corporation and all such risks shall be assumed by the Buyer.
4.2 Exclusive Warranties: EDEN Bioscience Corporation warrants that at the time of the first sale of this product it conforms to the chemical description on the label and under normal conditions is reasonably fit for the purposes referred to in the Directions for Use, subject to inherent risks referred to above. If this product does not perform as warranted above, customer's sole remedy for breach of that warranty shall be replacement of the product or refund of the purchase price paid, at the option of EDEN Bioscience Corporation. TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS, OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO WARRANTIES, TERMS, OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND SATISFACTORY QUALITY.
4.3 Limitation of Liability: To the full extent allowed by law, EDEN Bioscience Corporation excludes for itself and its suppliers any liability, whether based in contract or tort (including negligence), for incidental, consequential, indirect, special, or punitive damages of any kind, or for loss of revenue or profits, loss of business, or crop injury arising out of or in connection with the sale, use, injury, performance, or failure of this product, even if EDEN Bioscience Corporation or its authorized reseller has been advised of the possibility of such damages, and limits its liability to replacement of the product, or a refund of the purchase price paid, at the option of EDEN Bioscience Corporation. This disclaimer of liability for damages will not be affected if any remedy provided herein fails of its essential purpose.
4.4 Assumption of Risk: Buyer and Users of this product assume the risk of any use contrary to the Directions for Use (Sections 2.0 and 8.0) and/or all of the risks inherent in the use of this product as set forth above. EDEN Bioscience Corporation offers this product, and the Buyer and User accept it, subject to the

foregoing Conditions of Sale and Exclusive Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of EDEN Bioscience Corporation.

- 4.5 **Prompt Notice of Claim:** EDEN Bioscience Corporation must have prompt notice as soon as Buyer or User has reason to believe they may have a claim (not to exceed twenty-one days from date of application) so that an inspection of the affected property and growing crops may be made. Unless Buyer and Users shall promptly notify EDEN of any claims, they shall be barred from obtaining any remedy.
- 4.6 **Tank Mixes:** Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of User, Applicator, and/or Application Advisor. Read and follow the entire label of each product to be used in a tank mix with this product.

**5.0 STORAGE AND DISPOSAL**

- 5.1 **General:** Do not contaminate water, food, or feed by storage and disposal. Keep product away from exposure to air, sunlight, moisture, or heat. After opening, use promptly.
- 5.2 **Storage:** Store dry and out of direct sunlight. Do not store in temperatures over 110° F for more than seven days.
- 5.3 **Disposal:** Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.
- 5.4 **Container Disposal:** Completely empty bag into application equipment. Then 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.

**6.0 PRODUCT INFORMATION**

The active ingredient in Messenger is a protein produced naturally by certain bacteria and other microbes. Messenger stimulates the plant's pest suppression systems and enhances plant growth. These beneficial effects can result in reduced reliance on traditional chemicals for pest control and greater production.

The ability of Messenger to initiate disease resistance, insect suppression, and to enhance plant growth will vary among crops and conditions. Messenger has no direct effect on insects or pathogens and the product's efficacy is based on its ability to activate the plant's own defense and growth mechanisms. Plants require 5-7 days to fully induce resistance.

**7.0 IPM USE**

- 7.1 **Start Messenger IPM Program Early:** Messenger is recommended for use as part of an IPM (Integrated Pest Management) strategy to combat expected plant diseases and/or pests. Best results will be obtained when Messenger is applied as early as possible in the life cycle of the crop followed by repeat applications through harvest. Repeat applications should be made at regularly timed intervals or to coincide with key physiological events such as flowering, fruit or boll set, etc. Apply other pest control products as needed if greater control is desired.
- 7.2 **Preventative Treatment and Required Activation Period:** Messenger is a preventative treatment and must be applied at least 5-7 days prior to expected disease or pest infestation.
- 7.3 **Scouting:** Close scouting and early attention to infestations of pests or pathogens is highly recommended.

**8.0 GENERAL DIRECTIONS FOR USE**

- 8.1 **Sites:** Messenger may be used for greenhouse, shadehouse, nursery, outdoor home and garden, and field production of all crops listed on this label.
- 8.2 **Days to Harvest:** Messenger may be applied up to or after harvest.
- 8.3 **Coverage:** Use spray volume adequate to obtain coverage without run-off. Uniform or full leaf coverage is helpful but is not required. All new foliage should be contacted.
- 8.4 **Recommended Rates:** Use the labeled rates for all applications. Increasing the amount of Messenger by increasing the rate will not improve the product's performance.
- 8.5 **Spray Intervals:** Messenger should be applied approximately every 14 days. Under heavy pest pressure, shortening of spray intervals will not improve and may actually decrease the

effectiveness of Messenger. Under heavy pest pressure, use another pest control product for additional protection.

- 8.6 **Non-Ionic Spreader-Stickers:** Only non-ionic spreader-stickers, which have been approved for use on growing and harvested crops may be used.
- 8.7 **Tank Mixing:** Messenger may be tank mixed with other labeled pesticides to enhance control. Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions. No dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. **Before tank-mixing Messenger with other labeled products, including spreader-stickers, check for tank mix compatibility (see Section 9.4).**

**9.0 USE ADVISORIES**

- 9.1 **Chlorine:** [FOLLOWING LANGUAGE IS FORMULATION SPECIFIC] Messenger is sensitive to degradation by chlorine. **DO NOT USE CHLORINATED WATER** when mixing this product. [OR] Avoid using chlorinated water when possible.
- 9.2 **pH:** Messenger may be inactivated by strongly acidic or basic tank mixes. Do not use Messenger in tank mixes or water below pH 5.0 or above 10.0.
- 9.3 **Use Promptly:** Use product within 4 hours of mixing into water. Do not use product from a package that has been opened more than 24 hours.
- 9.4 **Tank Mix Compatibility:** Messenger may be inactivated by exposure to strong oxidizing agents or to materials that are strongly acidic or basic.
  - Do not mix this product with pyrophosphates, phosphoric acid, or other strong oxidizers.
  - Do not use Messenger in tank mixes below pH 5.0 or above 10.0. Messenger is a protein, therefore compatibility with inorganic salts, chemicals using clay-based formulas, or other materials in a tank mix cannot be assured under all circumstances.
- 9.5 **Fertilization:** Photosynthesis and nutrient uptake are elevated in Messenger treated plants. Therefore, User must closely monitor plant development and adjust fertilization practices as necessary to maintain the proper developmental stages of plant growth.
- 9.6 **Early Ripening:** Crops treated with Messenger may be ready for harvest one or more weeks earlier than non-treated crops. User must monitor crop for early ripening or maturity and harvest accordingly.
- 9.7 **Rain:** Do not apply during rain. Reapplication is not necessary if treatments have been applied at least 30 minutes before rain begins.

**10.0 APPLICATION AND MIXING INSTRUCTIONS**

- 10.1 **Water:** Clean ditch, pond, or well water may be used with Messenger. [FOLLOWING LANGUAGE IS FORMULATION SPECIFIC] Messenger is sensitive to degradation by chlorine (found in many municipal water sources) and certain other chemicals. For best results pre-treat water with EDEN Bioscience's Water Treatment Agent (WTA) (supplied with Messenger). WTA is a common material that will help protect Messenger's active ingredient from chlorine or other harmful chemicals.
- 10.2 **Mixing Instructions:** Mix Messenger as follows:
  - Add water to the mix tank and provide gentle agitation.
  - [THIS STEP FORMULATION SPECIFIC] Add WTA. Continue gentle agitation.
  - Add the required amount of Messenger. Agitate until dissolved and avoid excessive foaming.
  - Add a non-ionic spreader-sticker (if desired) and other spray materials to be tank mixed, if any, to the mix tank. Only materials which have been approved for use on growing and harvested crops may be added.
  - Continue gentle agitation for approximately 5 minutes. Apply promptly.
- 10.3 **Application and Water Volume:** Messenger may be applied with conventional ground or aerial equipment with quantities of water sufficient to provide coverage of top of the plant or new foliage. Uniform coverage is not required but may be helpful. The volume of water required per acre will depend on crop development,

relative humidity, spray equipment, and local experience. For ground applications, the selection of spray volumes of 25 to 150 gallons of water per acre is recommended. For optimal results, use at least 3 gallons of water per acre by air except in arid areas, where 5 to 10 gallons may be required.

- 10.4 **Spray Drift for Aerial Application:** Avoiding spray drift at the application site is the responsibility of the applicator. The interactions of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.
- 10.5 **Seed Treatment:** Messenger may be used to treat seeds. Apply 0.35-5.00 oz. Messenger per 60-100 lbs. seed as a pre-plant seed treatment using standard seed treatment equipment. Mix thoroughly and plant. Messenger may be mixed with some other commercial seed treatments. Use of the resulting mix must be in accordance with the more restrictive label limitations and precautions.
- 10.6 **Application via Sprinkler, Drip, or Chemigation Systems:**  
**General Statements:** Messenger may be applied through most sprinkler, drip, or chemigation systems. If you have questions about your system's calibration, you should contact State Extension Service Specialists, equipment manufacturer or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system. A person knowledgeable about the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.  
**System Requirements:** The system must contain a functional check valve, vacuum relief valve and low-pressure drain, appropriately located on the irrigation pipeline to prevent water source contamination from back-flow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind-speed favors drift beyond the area intended for treatment.

**11.0 APPLICATION RATES AND SPECIFIC CROP INSTRUCTIONS**

Use the tables below to determine the application rates for Messenger as a foliar spray. Follow specific crop instructions for application timing and frequency.

**11.1 Vegetable Application Rates and Specific Crop Instructions**

Crop	Oz/Acre
Artichoke	2.25 – 9.00
Asparagus	2.25 – 9.00
Cucurbits such as Cucumber, Melon, and Squash	2.25 – 9.00
Fruiting Vegetables such as Tomato, Pepper, Okra, and Eggplant	2.25 – 9.00
Leafy and Cole Crops such as Bok Choy, Broccoli, Cabbage, Cauliflower, Celery, Chard, Lettuce, and Spinach	2.25 – 9.00
Onion, Garlic, and Scallion	2.25 – 9.00
Sweet Corn	2.25 – 9.00

• **ARTICHOKE**

**Uses:** Messenger is recommended to boost overall vigor and production of artichokes and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a foliar spray at approximately 14-day intervals beginning at new growth.

• **ASPARAGUS**

**Uses:** Messenger is recommended to boost overall vigor and production of asparagus and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a foliar spray at approximately 14-day intervals beginning at new growth in spring.

• **CUCURBITS (such as cucumber, melon, and squash)**

**Uses:** Messenger is recommended to boost overall production of cucurbits and to aid in management of diseases such as CMV (cucumber mosaic virus) and TMV (tobacco mosaic virus).

**Time and Methods of Application:** Messenger may be applied as foliar sprays beginning at first true leaf and repeated at approximately 14-day intervals.

• **EGGPLANT**

**Uses:** Messenger is recommended to boost overall production of eggplant and to aid in management of diseases such as CMV (cucumber mosaic virus).

**Time and Methods of Application:** Messenger may be applied as two overhead drenches (2.25 – 4.4 oz/50 gallons) to greenhouse seedlings. A drench may be applied approximately 3 weeks after seeding and a second 5-7 days before transplanting. Earlier or later drenches may be applied as desired. After transplanting, foliar sprays are recommended at approximately 14-day intervals beginning 7 days after transplanting. If no drench has been applied begin applications at approximately 14-day intervals as early as possible.

• **LEAFY AND COLE CROPS (such as bok choy, broccoli, cabbage, cauliflower, celery, chard, lettuce, and spinach)**

**Uses:** Messenger is recommended to boost overall production of leafy and cole crops and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a seed treatment or as foliar sprays beginning at first true leaf and repeated at approximately 14-day intervals.

• **ONION, GARLIC, and SCALLION**

**Uses:** Messenger is recommended to boost overall production of onion, garlic and scallions and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a seed treatment or as foliar sprays beginning at first true leaf and repeated at approximately 14-day intervals.

• **PEPPER**

**Uses:** Messenger is recommended for peppers to boost overall production and to aid in management of diseases such as bacterial leaf spot (*Xanthomonas campestris* pv. *vesicatoria*) and Phytophthora root rot (*Phytophthora capsici*).

**Time and Methods of Application:** Messenger may be applied as a drench (2.25 – 4.4 oz/50 gallons) to greenhouse seedlings. A drench may be applied approximately 3 weeks after seeding and a second 5-7 days before transplanting. Earlier or later drenches may be applied as desired.

After transplanting, foliar sprays are recommended at approximately 14-day intervals through harvest beginning 2 weeks after the last greenhouse drench. If no drench has been applied, begin applications at approximately 14-day intervals as early as possible. If no treatments have been applied previously, begin at planting or as soon as practical. For direct-seeded pepper, applications at approximately 14-day intervals are recommended beginning at first true leaf.

• **SWEET CORN**

**Uses:** Messenger is recommended to boost overall growth and production of corn and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a pre-plant seed treatment followed by foliar sprays at approximately 14-day intervals beginning at complete emergence.

**TOMATO**

**Uses:** Messenger is recommended for tomatoes to boost overall production and to aid in management of diseases and pests such as bacterial leaf spot (*Xanthomonas campestris* pv. *vesicatoria*), bacterial speck (*Pseudomonas syringae* pv. *tomato*), bacterial wilt (*Pseudomonas solanacearum*), Fusarium wilt (*Fusarium oxysporium*), Phytophthora root rot (*Phytophthora capsici*), CMV (cucumber mosaic virus), and root-knot nematodes (*Meloidogyne* spp.).

**Time and Methods of Application:** Messenger may be applied as a drench (2.25 – 4.50 oz/50 gallons) to greenhouse seedlings. A drench may be applied approximately 3 weeks after seeding and a second 5-7 days before transplanting. Earlier or later drenches may be applied as desired.

After transplanting, foliar sprays are recommended at approximately 14-day intervals through harvest beginning 2 weeks after the last greenhouse drench. If no drench has been applied, begin applications at approximately 14-day intervals as early as possible. For direct-seeded tomato, applications at approximately 14-day intervals are recommended beginning at first true leaf.

**11.2 Field Crop Application Rates and Specific Crop Instructions**

Crop	Oz/Acre
Corn (grain or silage and popcorn)	2.25 – 9.00
Field Crops such as Cotton and Peanut	2.25 – 9.00
Forage Crops such as Alfalfa hay and Timothy hay	2.25 – 9.00
Legume Vegetables such as Beans (dry and fresh), Peas (dry and fresh), Lentils, and Soybeans	2.25 – 9.00
Oil and Oil-Seed Crops such as Canola (rape seed), Jojoba, Mint (peppermint and spearmint), Safflower, Sesame, and Sunflower	2.25 – 9.00
Root Crops such as Beets, Carrots, Ginger root, Ginseng, Parsnips, Radish, Rutabagas, and Turnips	2.25 – 9.00
Sugar Cane	2.25 – 9.00
Tobacco	4.50 – 13.35
Tuber Crops such as Potato, Sweet Potato, and Yams	2.25 – 9.00

**CORN (grain or silage and popcorn)**  
**Uses:** Messenger is recommended to boost overall growth and production of corn for grain or silage and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a pre-plant seed treatment followed by foliar sprays at approximately 14-day intervals beginning at complete emergence.

**COTTON**

**Uses:** Messenger is recommended for use on cotton to boost overall growth and production and to aid in the management of disease and suppression of certain insect pests.

**Time and Methods of Application:** Messenger may be applied as a seed treatment and as a foliar spray. Foliar sprays may be applied at first true leaf, first bloom, and 21 days after first bloom to boost overall growth and production. For suppression of pests, apply Messenger prior to infestation and continue at approximately 14-day intervals.

**FORAGE Crops (alfalfa and timothy)**

**Uses:** Messenger is recommended to boost overall growth and production of forage hays (alfalfa and timothy) and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a seed treatment or as foliar sprays at approximately 14-day intervals beginning after new growth commences or after each cutting. For newly seeded crops, begin sprays at first true leaf.

**LEGUME VEGETABLES (beans and other legumes)**

**Uses:** Messenger is recommended to boost overall growth and production of beans and other legumes and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a seed treatment and as foliar sprays at approximately 14-day intervals beginning at first true leaf.

**OIL and OIL-SEED CROPS (Canola and other oil and oil-seed crops)**

**Uses:** Messenger is recommended to boost overall vigor and production of oil seed crops such as canola and sunflower and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a seed treatment or as foliar sprays beginning at complete emergence and followed at approximately 14-day intervals through harvest.

**PEANUT**

**Uses:** Messenger is recommended to boost overall growth and production of peanuts and to aid in management of diseases such as leaf spot diseases (*Cercospora* sp. and *Cercosporidium* sp.).

**Time and Methods of Application:** Messenger may be applied as a seed treatment followed by foliar sprays at approximately 14-day intervals beginning at first true leaf.

**POTATO**

**Uses:** Messenger is recommended to boost overall growth and production of potatoes and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning at full emergence or as a seed treatment.

**ROOT CROPS (beets and other root crops)**

**Uses:** Messenger is recommended to boost overall vigor and production of beets and other root crops such as carrots and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as a seed treatment and as foliar sprays at approximately 14-day intervals beginning at first true leaf.

**SUGAR CANE**

**Uses:** Messenger is recommended to boost overall growth and production of sugar cane and to aid in the management of disease.

**Time and Method of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning after new growth commences or after each cutting.

**TOBACCO**

**Uses:** Messenger is recommended for tobacco to boost overall growth and production and to aid in management of diseases and pests such as blue mold (*Peronospora tabacina*), Fusarium wilt (*Fusarium oxysporum*), Tobacco cyst nematode (*Globodera solanacearum*) and TMV (tobacco mosaic virus).

**Time and Methods of Application:** Messenger may be applied as pre-emergence root drenches (4.50 – 13.35 oz/50 gallons) applied at 14-day intervals beginning with first irrigation in the greenhouse or direct-seeded bed. Foliar sprays are recommended at approximately 14-day intervals beginning 7 days after transplanting through harvest.

**11.3 Small Grain Application Rates and Specific Crop Instructions**

Crop	Oz/Acre
Rice	2.25 – 9.00
Small Grains such as Barley, Flax, Oats, Sorghum, Rye, and Wheat	2.25 – 9.00

- RICE**  
**Uses:** Messenger is recommended to boost overall growth and production of rice and to aid in management of diseases such as stem rot (*Sclerotium oryzae*), bacterial leaf blight (*Xanthomonas oryzae*), and sheath blight (*Rhizoctonia solani*).  
**Time and Methods of Application:**  
**Pre-germinated Rice:** Messenger may be applied as a pre-plant (approx. 8 hrs. or overnight) seed soak (2.25 – 4.4 oz/50 gallons) before planting followed by a foliar application at complete emergence.  
**Non-Pre-germinated Rice:** Messenger may be applied as a seed treatment or as foliar applications at approximately 14-day intervals beginning at complete emergence.
- WHEAT and BARLEY and other small grains**  
**Uses:** Messenger is recommended to boost root growth, production, and overall plant vigor for wheat or barley and to aid in management of diseases such as wheat sheath blight (*Rhizoctonia solani*).  
**Time and Methods of Application:** Messenger is applied as a pre-plant seed treatment followed by foliar sprays as needed for management of wheat sheath blight.

**11.4 Tree and Vine Application Rates and Specific Crop Instructions**

Crop	Oz/Acre
Avocado	6.67 – 13.35
Berries and Small Fruit such as Blackberry, Blueberry, Boysenberry, Cranberry, Currant, Raspberry, and Strawberry	2.25 – 13.35
Citrus such as Grapefruit, Mineolas, Lemon, Lime, Orange, Pumelo, Tangelo, and Tangerine	6.67 – 13.35
Trees such as Conifer and Broad-leaf	6.67 – 13.35
Nut Trees such as Almond, Filbert, Macadamia, Pecan, Pistachio, and Walnut	6.67 – 13.35
Pome Fruit such as Apple and Pear	6.67 – 13.35
Stone Fruit such as Cherry, Olive, Nectarine, Peach, Plum, and Prune	6.67 – 13.35
Vines such as Grape (juice, raisin, table and wine), Kiwifruit, and Hops	4.50 – 13.35

- ALMOND (and other nut trees such as walnut, pistachio, and filbert)**  
**Uses:** Messenger is recommended to boost overall vigor and production of nut trees such as almond, walnut, pistachio, and filbert and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning with new spring foliage growth.
- APPLE**  
**Uses:** Messenger is recommended to boost overall vigor and production of apple and to aid in management of diseases such as apple scab (*Venturia inaequalis*) and fire blight (*Erwinia amylovora*).  
**Time and Methods of Application:** Messenger may be applied as 2 pre-bloom sprays beginning at green tip and again 7-10 days later, followed by post-bloom sprays at approximately 14-day intervals.
- AVOCADO**

- Uses:** Messenger is recommended to boost overall vigor and production of avocado and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning at new spring growth flush.
- CHERRY and other stone fruit crops**  
**Uses:** Messenger is recommended to boost overall vigor and production of cherry and other stone fruit crops and to aid in the management of disease.  
**Time and Methods of Application:** Messenger is applied as 2 pre-bloom sprays beginning at green tip and again 7-10 days later, followed by post-bloom sprays at approximately 14-day intervals.
- CITRUS**  
**Uses:** Messenger is recommended to boost overall vigor and production of citrus and to aid in management of diseases such as bacterial leaf spot (*Xanthomonas campestris pv citrumelo*), citrus scab (*Elsinoe fawcettii*), greasy spot (*Mycosphaerella citri*), and *Alternaria* brown spot (*Alternaria alternata pv citri*).  
**Time and Methods of Application:** Messenger may be applied by foliar spray at approximately 14-day intervals beginning at initial flush.
- CRANBERRY**  
**Uses:** Messenger is recommended to boost overall production and to improve coloration in cranberries and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning when new shoot growth is present.
- GRAPES (such as juice, raisin, table and wine) and other vine crops**  
**Uses:** Messenger is recommended to boost overall growth and production of grapes and to aid in management of diseases such as *Botrytis* bunch rot (*Botrytis cinerea*) and black rot (*Guignardia bidwellii*).  
**Time and Methods of Application:** Messenger may be applied to grapevines as foliar sprays at approximately 14-day intervals beginning when new shoot growth is present.
- PEAR**  
**Uses:** Messenger is recommended to boost overall vigor and production of pear and to aid in management of diseases such as fire blight (*Erwinia amylovora*).  
**Time and Methods of Application:** Messenger is applied as 2 pre-bloom sprays beginning at green tip and again 7-10 days later, followed by post-bloom sprays at approximately 14-day intervals.
- RASPBERRY AND BLUEBERRY and other cane berries**  
**Uses:** Messenger is recommended to boost overall growth and production of raspberries and blueberries and to aid in management of diseases such as *Botrytis* (*Botrytis cinerea*).  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning when new shoot growth is present.
- STRAWBERRY**  
**Uses:** Messenger is recommended to boost overall growth and production of strawberries and to aid in management of diseases such as *Botrytis cinerea* and Fusarium wilt (*Fusarium oxysporium*).  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals while plants are actively growing, beginning in the greenhouse or nursery, and after transplanting. For fall transplanted strawberries resume applications in spring.
- TREES (such as conifer and broad-leaf)**  
**Uses:** Messenger is recommended to boost overall growth and production of conifers and to aid in management of diseases such as *Botrytis* gray mold (*Botrytis cinerea*).  
**Time and Methods of Application:** Messenger may be applied as a pre-plant seed treatment immediately before planting followed by foliar sprays at approximately 14-day intervals beginning after complete emergence.

**11.5 Ornamental and Turf Application Rates and Specific Crop Instructions**

Crop	Oz/Acre
Ornamentals such as Fresh Cut Flowers, Bedding Plants, Green Foliage Plants, Woody Ornamentals, and Rose	6.00 – 9.00
Turf	2.25-6.75

- FRESH CUT FLOWERS, BEDDING PLANTS, GREEN FOLIAGE PLANTS, and WOODY ORNAMENTALS**  
**Uses:** Messenger is recommended to boost overall growth and production of greenhouse, shadehouse, nursery, and field grown ornamentals. For geranium, Messenger is also recommended to aid in management of diseases such as bacterial leaf blight (*Xanthomonas campestris pv pelargonii*).  
**Time and Methods of Application:** For greenhouse bedding plants: Messenger may be applied at approximately 14-17 day intervals as irrigation drenches directly to seeded flats or cuttings, followed by foliar applications. For field-grown plants, Messenger may be applied as foliar sprays at approximately 14-17 day intervals once plants have initiated bud/leaf, fully leafed out, or beginning approximately 7 days after transplant and/or potting/repotting.
- ROSE**  
**Uses:** Messenger is recommended to boost overall growth and production of rose and to aid in management of diseases such as black leaf spot (*Diplocarpon rosae*).  
**Time and Methods of Application:** Messenger may be applied as foliar sprays beginning 7 days after grafted cuttings are planted and continuing at approximately 14-17 day intervals.
- TURF**  
**Uses:** Messenger is recommended to boost overall growth and vigor of turf grass and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as a seed treatment for overseeded or newly seeded turf followed by foliar sprays at approximately 14-day intervals beginning 14 days after full emergence.

**11.6 Specialty Crop Application Rates and Specific Crop Instructions**

Crop	Oz/Acre
Aloe	4.50 – 13.35
Banana	4.50 – 13.35
Coffee	6.67 – 13.35
Figs	6.67 – 13.35
Herbs such as Basil, Chives, and Cilantro	2.25 – 9.00
Mango	6.67 – 13.35
Papaya	6.67 – 13.35
Pineapple	6.67 – 13.35
Taro Root	4.50 – 13.35

- ALOE**  
**Uses:** Messenger is recommended to boost overall growth and vigor of aloe and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new spring growth emerges.
- BANANA**  
**Uses:** Messenger is recommended to boost overall growth and vigor of banana and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new growth is initiated.
- COFFEE**  
**Uses:** Messenger is recommended to boost overall growth and vigor of coffee and to aid in the management of disease.

**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new growth is initiated.

- FIGS**  
**Uses:** Messenger is recommended to boost overall growth and vigor of fig trees and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new spring growth is initiated.
- HERBS**  
**Uses:** Messenger is recommended to boost overall growth and vigor of herbs and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new spring growth is initiated.
- MANGO**  
**Uses:** Messenger is recommended to boost overall growth and vigor of mango trees and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new growth is initiated.
- PAPAYA**  
**Uses:** Messenger is recommended to boost overall growth and vigor of papaya and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new growth is initiated.
- PINEAPPLE**  
**Uses:** Messenger is recommended to boost overall growth and vigor of pineapple and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new growth is initiated.
- TARO ROOT**  
**Uses:** Messenger is recommended to boost overall growth and vigor of taro root and to aid in the management of disease.  
**Time and Methods of Application:** Messenger may be applied as foliar sprays at approximately 14-day intervals beginning 7 days after new growth is initiated.

**11.7 Grasses Grown for Seed Application Rates and Specific Crop Instructions**

- GRASSES GROWN FOR SEED: 2.25 – 9.00 Oz/Acre**  
**Uses:** Messenger is recommended to boost overall growth and vigor and to aid in the management of disease in turf grasses grown for seed such as blue grasses, fescues, and rye grasses, and forage grasses grown for seed such as fescues, orchard grasses, timothys, bromes, wheat grasses, and other native species.  
**Time and Methods of Application:** Messenger may be applied as a seed treatment followed by foliar sprays at approximately 14-day intervals beginning 14 days after full emergence.

**12.0 GREENHOUSE DRENCH APPLICATION**

Mix 2.25 – 4.50 oz. Messenger per 50 gallons of water. Apply solution immediately by traveling boom at a height and speed appropriate to thoroughly drench seedlings. Do not apply additional irrigation to plants for at least 30 minutes following application.

**13.0 LIMITED USE LICENSE AND PATENTS**

The contents of this package and/or the use of the contents are covered by U.S. Patent Nos. 5,849,868, 5,859,324, 5,776,889, 5,977,060 and 6,277,814 as well as pending patent applications. The purchase of this package grants the Buyer a license, under these patents and patent applications, to use its contents only for treating plants, plant seeds, and other plant parts as described herein.

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**Section B. Commercial Seed Treatment**  
PPE and User Safety Recommendations are not required for this section but are included as product stewardship

# Messenger®

## Seed Treatment

A Seed Treatment for Yield Enhancement

FOR USE ONLY BY  
COMMERCIAL SEED TREATMENT FACILITIES

Wettable Dry Granule

**ACTIVE INGREDIENT:**

Harpin Protein: ..... 3.0%

**OTHER INGREDIENTS:** ..... 97.0%

Total: ..... 100%

EPA Reg. No. 69834-2      EPA Est. No. 69834-WA-001

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**EDEN**

Net Weight: \_\_\_\_\_

EDEN Bioscience Corporation  
1530 Monte Villa Parkway, Bothell, WA 98021-6942  
1-888-879-2420 • www.edenbio.com

Read the entire label before using this product.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

### PRECAUTIONARY STATEMENTS

**HAZARD TO HUMANS & DOMESTIC ANIMALS**

**CAUTION**

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes and socks.
- Particulate dust mask, when mixing.

**USER SAFETY RECOMMENDATIONS**

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using toilet.

**ENVIRONMENTAL HAZARDS**

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 cleaning equipment or disposing of equipment washwaters.

### DIRECTIONS FOR USE

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

### 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.

Keep unprotected persons out of treated areas until sprays have dried.

### GENERAL INSTRUCTIONS

#### GROWTH ENHANCEMENT

Use Messenger to increase plant health and vigor, and to enhance crop quality and production.

#### USE ADVISORIES

##### CHLORINE

Messenger is sensitive to degradation by chlorine. Do not use chlorinated water. [FOLLOWING LANGUAGE IS FORMULATION SPECIFIC] Avoid using chlorinated water when possible.

##### COLORING

Treated seeds must be discolored before being sold.

##### MIXING WITH OTHER SEED TREATMENT PRODUCTS

Mixing this product with any other product, which is not specifically and expressly authorized by EDEN shall be the exclusive risk of the User, Applicator, and/or Application Advisor. Read and follow the entire label of each product to be used in combination with this product.

##### USE PROMPTLY

Use product within 4 hours of mixing into water. Do not use product from a package that has been opened for more than 24 hours.

#### MIXING INSTRUCTIONS

Mix Messenger as follows:

- Add water to the mix tank and provide gentle agitation.
- Add the required amount of Messenger. Agitate until dissolved and avoid excessive foaming.
- Apply promptly.

#### APPLICATION INSTRUCTIONS

Messenger may be applied as a seed treatment by commercial seed treatment facilities. Mix thoroughly and treat seed. Use application rates as specified on crops listed below. Messenger may be mixed with some other commercial seed treatments. Use of the resulting mix must be in accordance with the more restrictive label limitations and precautions. Allow treated seeds to dry as appropriate before bagging.

#### CROPS AND APPLICATION RATES

##### Vegetable Crops

Crop	Rate
<b>LEAFY and COLE CROPS</b> Such as: Bok Choy, Broccoli, Cabbage, Cauliflower, Celeriac, Chard, Lettuce, and Spinach	0.35-5.00 oz per 60-100 lbs seed
<b>BULB VEGETABLES</b> Such as: Onion, Garlic, and Scallion	
<b>SWEET CORN</b>	

##### Field Crops

Crop	Rate
<b>CORN</b> Such as: Grain, Silage, and Popcorn	0.35-5.00 oz per 60-100 lbs seed
<b>COTTON</b>	
<b>FORAGE CROPS</b> Such as: Alfalfa Hay and Timothy Hay	
<b>LEGUME VEGETABLES</b> Such as: Dry Beans, Dry Peas, Lentils, and Soybeans	
<b>LEGUME FRESH and WET PROCESSING VEGETABLES</b> Such as: Peas, Greenbean, and Snap beans	
<b>OIL and OIL-SEED CROPS</b> Such as: Canola (rape seed), Jojoba, Mint (peppermint and spearmint), Safflower, Sesame, and Sunflower	
<b>PEANUT</b>	
<b>ROOT CROPS</b> Such as: Beets, Carrots, Ginger Root, Ginseng, Paraniya, Radish, Rutabagas, and Turnips	
<b>TUBER CROPS</b> Such as: Potato, Sweet Potato, and Yams	

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**Small Grain Crops**

Crop	Rate
RICE	0.35-5.00 oz per 60-100 lbs seed
SMALL GRAINS Such as: Barley, Flax, Oats, Sorghum, Rye, and Wheat	

**Trees and Vines**

Crop	Rate
TREES Such as: Conifer and Broadleaf	0.35-5.00 oz per 60-100 lbs seed

**Grasses Grown For Seed**

Crop	Rate
TURF GRASSES Such as: Blue Grasses, Fescues, and Rye Grasses	0.35-5.00 oz per 60-100 lbs seed
FORAGE GRASSES Such as: Fescues, Orchard Grasses, Timothys, Bromes, Wheat Grasses, and Other Native Species	

**STORAGE AND DISPOSAL**

**GENERAL**

Do not contaminate water, food, or feed by storage and disposal. Keep product away from exposure to air, sunlight, moisture, or heat. After opening, use promptly.

**STORAGE**

Store dry and out of direct sunlight. Do not store in temperatures over 110° F for more than seven days.

**DISPOSAL OF PRODUCT**

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

**DISPOSAL OF CONTAINER**

Completely empty bag into application equipment. Then 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.

**LIMIT OF WARRANTY AND LIABILITY**

**CONDITIONS OF SALE AND EXCLUSIVE WARRANTY**

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness of the product, or other unintended consequences may result because of such factors as horticultural practices, use with other products (unless otherwise expressly provided in the Directions for Use of this product), presence of other materials, the manner of use or application, and various environmental conditions, including but not limited to weather conditions and moisture conditions. All of the aforementioned risks are beyond the control of EDEN Bioscience Corporation and the Buyer shall assume all such risks.

**EXCLUSIVE WARRANTIES**

EDEN Bioscience Corporation warrants that at the time of first sale of this product it conforms to the chemical description on the label and under normal conditions is reasonable fit for the purposes referred to in the Directions for Use, subject to inherent risks referred to above. If this product does not perform as warranted above, customer's sole remedy for breach of that warranty shall be replacement of the product or refund of the purchase price paid, at the option of EDEN Bioscience Corporation. TO THE EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS, OR CONDITIONS EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO WARRANTIES, TERMS, OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND SATISFACTORY QUALITY.

**LIMITATION OF LIABILITY**

To the full extent allowed by law, EDEN Bioscience Corporation excludes for itself and its suppliers any liability, whether based in contract or tort (including negligence), for incidental, consequential, indirect, special, or punitive damages of any kind, or for loss of revenue or profits, loss of business, or crop injury arising out of or in connection with the sale, use, injury, performance, or failure of this product, even if EDEN Bioscience Corporation or its authorized reseller has been advised of the possibility of such damages, and limits its liability to replacement of the product or a refund of the purchase price paid, at the option of EDEN Bioscience Corporation. This disclaimer of liability for damages will not be affected if any remedy provided herein fails of its essential purpose.

**ASSUMPTION OF RISK**

Buyer and Users of this product assume the risk of any use contrary to the Directions for Use and/or all of the risks inherent in the use of this product as set forth above. EDEN Bioscience Corporation offers this product, and the Buyer and User accept it, subject to the foregoing Conditions of Sale and Exclusive Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of EDEN Bioscience Corporation.

**PROMPT NOTICE OF CLAIM**

EDEN Bioscience Corporation must have prompt notice as soon as Buyer or User has reason to believe they may have a claim (not to exceed twenty-one days from the date of application) so that an inspection of the affected property and growing crops may be made. Unless Buyer and Users shall promptly notify EDEN of any claims, they shall be barred from obtaining any remedy.

**TANKS MIXES**

Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of User, Applicator, and/or Application Advisor. Read and follow the entire label of each product to be used in a tank mix with this product.

**LIMITED USE LICENSE AND PATENTS**

The contents of this package and/or the use of the contents are covered by U.S. Patent Nos. 5,849,868, 5,859,324, 5,776,889, 5,977,060, and 6,277,814 as well as pending patent applications. The purchase of this package grants the Buyer a license, under these patents and patent applications, to use its contents only for treating plants, plant seeds, and other plant parts as described herein.

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### Section C. Non-Agricultural Use

This product is Toxicity Category IV for all routes of exposure, thus the inclusion of PPE is not a requirement for non-WPS uses such as this section.

# Messenger®

**OPTIONAL TAG LINES – For use Individually or in combination on labels and/or accompanying materials:**

- Home, Yard & Garden
- A Biochemical Plant Activator For Healthier Plants
- Promotes Plant Growth
- Helps Manage Disease
- For Home and Garden Use**
- For Healthier Plants**
- Healthier Plants**
- Better Blooms**
- Larger Harvests**
- Promotes Plant Growth for Superior Gardens
- Breakthrough Technology
- Improves the health of every plant you grow!
- Improves the health of every plant in your garden!
- Fruits • Garden Flowers & Shrubs • House Plants • Vegetables
- Boost overall growth and production
- Improve plant stamina & vigor
- Strengthen a plant's resistance to disease!

#### ACTIVE INGREDIENT:

Harpin Protein: ..... 3.0%

OTHER INGREDIENTS: ..... 97.0%

Total: ..... 100%

EPA Reg. No. 69834-2 EPA Est. No. 69834-WA-001

**[ALTERNATE RE-PACKER'S EPA Est. No.: 75447-CA-001]**

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

## EDEN

Wettable-Dry-Granule  
Net Weight: \_\_\_\_\_

**[OPTIONAL – Packed for:]**

EDEN Bioscience Corporation • 3830 Monte Villa Parkway Bothell,  
WA 98021-6942

1-888-879-2420 [And/Or] [www.edenbio.com](http://www.edenbio.com)

**[OPTIONAL]** See Back Panel for additional precautionary statements

FRONT PANEL (ABOVE)

BACK PANEL (BELOW)

#### DIRECTIONS FOR USE

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

#### WHAT IT IS

Messenger is a revolutionary product based on derived from a naturally occurring protein (harpin). **[REMAINDER OF SENTENCE OPTIONAL:** that activates plant growth systems and harnesses the plants' ability to defend themselves against disease and withstand other stresses.] Messenger stimulates a plant's growth and defense mechanisms to improve the plant's ability to grow and protect itself from stresses caused by adverse environmental conditions. Use Messenger to boost overall plant growth, vigor, and production, and to aid in the management of disease.

WHERE TO USE IT

Messenger may be used on all plants grown indoors and outdoors, including Roses and other Flowers, Vegetables, Fruiting Trees, Berries, Vines, Herbs, Root Crops, and all ornamental plants such as Trees and Shrubs, Lawns, and Indoor Plants and Turf.

DO NOT ALLOW PEOPLE OR PETS TO CONTACT TREATED AREAS UNTIL People and Pets may enter treated areas after spray has dried.

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Wash your hands after use.

#### USE TIPS

USE ONLY NON-CHLORINATED WATER. Many home water sources are chlorinated. One alternative is to use distilled water. If tap or chlorinated water is your only water source, fill a 1-3 gallon sprayer with water and let stand uncovered for at least 12 hours to allow the chlorine to evaporate.

#### HOW TO USE IT Mixing Instructions

1. Fill a 1-3 gallon sprayer with chlorine free water (see Use Tips).
2. Add one packet (0.25 oz) to the water. Mix thoroughly. Add one packet (0.25 oz) to 1-3 gallons of water (1/2 teaspoon per quart of water) and mix thoroughly.

#### Application Instructions

1. Spray foliage until completely wet. Apply Messenger as a foliar spray or drench for complete coverage.
2. Begin spray schedule when the plant is actively starting to grow. Repeat sprays on 14-21 day intervals for a total of 4 applications. Begin Messenger treatments when plants are actively growing. For best results, repeat applications every 2 to 3 weeks while plants are actively growing and continue applications through harvest or until plants become dormant.
3. Use spray solution within 4 hours of mixing. Apply mixed product within 4 hours. Use opened packets within 24 hours.
4. If it rains within 30 minutes of application, reapply. Reapply if it rains within 30 minutes of application.

#### STORAGE AND DISPOSAL

Store dry and out of direct sunlight. Do not store in temperatures over 110° F for more than 7 days. If Empty: Do not reuse this container. Place in trash or offer for recycling if available. If Partly Filled: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor or outdoor drain.



#### Questions or Comments?

Call 1-888-879-2420

[www.edenbio.com](http://www.edenbio.com)

#### PRECAUTIONARY STATEMENTS

##### HAZARD TO HUMANS & DOMESTIC ANIMALS

**ENVIRONMENTAL HAZARDS:** Do not apply directly to water. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

**NOTICE:** Buyer assumes all responsibility for safety and use not in accordance with directions.

This product is protected. The contents of this package and/or the use of the contents are protected by U.S. Patent Nos. 5,849,868, 5,859,324, 5,778,889, 5,977,060, and 6,277,814. Other patents pending. **REFORMULATION OR REPACKAGING FOR SALE IS PROHIBITED.** © 2002 EDEN Bioscience Corporation. Messenger®, EDEN®, and EDEN Bioscience® are registered trademarks of EDEN Bioscience Corporation. Always read and follow label instructions before buying or using this product.

**[ALTERNATE LOCATION for Address/Phone/Website]**

**[OPTIONAL – Packed for:]** EDEN Bioscience Corporation, 3830 Monte Villa Parkway, Bothell, WA 98021-6942.

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**OPTIONAL LANGUAGE for labels and accompanying materials:**

MAY BE USED UP TO THE DAY OF HARVEST

**What does Messenger do?**

- Stimulates a plant's defense and growth mechanisms
- Boosts overall growth, vigor, and production
- Aids in the management of disease
- Improves the plant's ability to grow and protect itself from stresses caused by adverse environmental conditions

Use Messenger to increase plant health and vigor, and aid in the management of disease, such as: bacterial leaf spot, black leaf spot, *Botrytis*, *Fusarium* wilt, and powdery mildew

[BARCODE]

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