69834-2

### Messenger® Master Label Index

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#### Section A. Agricultural Use

## MESSENGER

#### A Biochemical Pesticide that:

[OPTIONAL TAG LINES - For use individually or in combination on labels: Activates Plant Growth and Defense Systems; Plant Health Regulator; Reduces transplant shock; Reduces Tobacco Specific Nitrosamines (TSNAS); Improves stand establishment; Suppresses nematode egg production; Enhances crop growth, quality, and yield; Enhances Plant Health; Aids Post Harvest Disease Management; Facilitates Integrated Pest Management Programs; with Harp-N-Tek<sup>T</sup> Harp-N-Tek is Eden's trademark for its proprietary harpin protein technology1

#### Wettable Dry Granule

#### **ACTIVE INGREDIENT:** 97.0% Harpin Protein: ..... OTHER INGREDIENTS: ..... Foders! Innset Total: ..... EPA Est. No. 69834-MA-001 EPA Reg. No. 69834-2 KEEP OUT OF REACH OF CHILDREN

### CAUTION **PRECAUCION**



Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle (If you do not understand the label, find someone to explain it to you.)

Net Weight:

IAN

EDEN BIOSCIENCE Corporation 11816 North Creek Parkway North, Bothell, WA 98011-8201 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 US**

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.

#### 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 estricted entry interval (REI) of 4 hours.

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

Coveralls; Waterproof gloves; and Shoes and socks.

#### PRODUCT INFORMATION

Messenger stimulates the plant's natural growth and defense systems, enhancing overall plant health. Healthier plants exhibit increased plant stamina and vigor, leading to one or more of the following benefits: improved stand, increased marketable yield, enhanced quality, improved transplant recovery, and extended shelf life. Messenger works best when used in conjunction with good crop management practices.

#### **GENERAL INSTRUCTIONS**

#### **GROWTH ENHANCEMENT AND MARKETABLE YIELD**

Use Messenger to increase plant health and vigor, to assist in the management of certain diseases, and to enhance crop quality and marketable production.

#### POST HARVEST BENEFITS

Messenger can be used to extend shelf life through pre-harvest applications and overcome transplant shock.

#### SITES

Messenger may be used for greenhouse, shadehouse, nursery, indoor and outdoor home and garden, and field production on all plants listed on this label. Messenger may also be used on plants in non-crop areas such as schoolyards, public parks and gardens, indoor plants, and other public areas.

#### COVERAGE

Use spray volume adequate to obtain coverage without runoff. Uniform or full leaf coverage is helpful but is not required.

#### DAYS TO HARVEST

Messenger may be applied up to or after harvest.

#### **USE ADVISORIES**

#### **USE PROMPTLY**

Use product on the same day it is mixed with water. Reseal opened packets to minimize exposure to air and moisture. 'Use opened packets within 3 weeks.

Messenger may be tank mixed with most other labeled pesticides to enhance efficiency. Do not use Messenger in tank mixes or water below pH 5.0 or above 10.0. Use of the resulting tank mix must be in accordance with 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. Messenger may be inactivated by exposure to strong oxidizing agents or materials that are strongly acidic or basic found in some tank mixes.

- Do not mix this product with pyrophosphates, phosphoric acid, or other strong oxidizers
- 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.
- Only non-ionic adjuvants that have been approved for use on growing and harvested crops may be used.

Check with your local EDEN BIOSCIENCE field representative or EDEN BIOSCIENCE Customer Service for specific compatibility information for Messenger and other labeled products.

#### **DILUTION WATER QUALITY**

If dilution water is high in total mineral content, salinity, and/or suspended solids then first dissolve Messenger in an appropriate volume of "clean water" such as municipal tap water. Then pour the dissolved Messenger solution into the dilution water for the spray (see step 1 of "Mixing Instructions").

#### **DILUTION WATER QUANTITY**

If 1 ounce of Messenger will be diluted in more than 25 gallons of chlorinated water (e.g., municipal water) add a labeled water treatment product to remove excess chlorine. Consult your EDEN BIOSCIENCE representative if you need further directions on water treatment.

#### **CROP RIPENING**

Crop maturity may be different in crops treated with Messenger. User must monitor crop for maturity and harvest accordingly.

#### RAIN

Do not apply during rain. Reapplication is not necessary if the spray has dried before rain begins.

#### STRESSED PLANTS

Plants must be actively growing at the time of foliar applications. Applications made to plants that are stressed by extreme heat, cold, moisture, or nutrient deficiencies may be less effective.

#### SPRAY DRIFT

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 these factors when making decisions.

#### **MIXING INSTRUCTIONS**

<u>Step 1</u>: Fill the mix tank with clean water. Provide gentle agitation. <u>Step 2</u>: If using less than 1 ounce of Messenger per 25 of chlorinated water, add water treatment agent and continue gentle agitation (See Use Advisory on "Dilution Water Quantity").

<u>Step 3</u>: If dilution water quality is suspect, then pre-dissolve Messenger in "clean" water before adding to the mix tank (see Use Advisory on "Dilution Water Quality").

Add the required amount of Messenger. Agitate until dissolved and avoid excessive foaming.

Step 4: If tank mixing, add other spray materials to the tank.

Step 5: Continue gentle agitation and apply promptly.

#### **APPLICATION INSTRUCTIONS**

Seed Treatment: Messenger may be used to treat seeds. Apply 0.35-5.00 oz. Messenger per 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.

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.

<u>System Requirements</u>: 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.

**Pre-plant Dip:** Apply as a pre-plant dip to strawberry roots and crowns at the rate of 4.5 - 6 oz per 100 gallons of water. Completely immerse planting stock in solution. DO NOT reuse water solution. It is recommended that transplants be washed to remove excess soil prior to dipping. Dip, soak or expose plants for a minimum of 2 to 5 minutes. Dispose of dip solution according to local restrictions.

Plant treated plants as quickly as possible. For continued disease management follow with foliar applications of Messenger on a 21-28 day interval.

**Foliar Application:** Messenger may be used as a greenhouse or field application using conventional ground or aerial equipment. Messenger is recommended to boost plant growth, vigor, and marketable production; and as part of an IPM program to assist disease management and obtain post harvest benefits. Use the following tables to make proper decisions on application rates and timing. Follow recommendations for your crop.

**Greenhouse and Transplant Applications** 

| Use Site & Crop   | Rate                        | Timing  |
|---|-----------------------------|---|
| Greenhouse<br>Any Crop Listed<br>Elsewhere on this Label  | 5-9 oz per 100<br>gal water | Apply overhead applications after<br>seedling emergence. Repeat every<br>14-21 days.              |
| Transplant:<br>Any Crop Listed<br>Elsewhere on this Label | 5-9 oz per 100<br>gal water | Apply 57 days before transplanting.<br>Can also be applied as a plant drench<br>at transplanting. |

Vegetable, Cucurbit, Cole, and Other Crops

| Crop   | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre)                       | Timing  |
|--|-------------------|--|---|
| ARTICHOKE<br>ASPARAGUS                                   | 2.25-9            | 10-200 by<br>ground.<br>Minimum 3 by<br>air. | Apply as a foliar spray at approximately 14-day intervals beginning at new growth. [ALTERNATE TEXT]: Begin applications prior to first bloom. Repeat at 14-28-day intervals. For direct seeded plants begin 14 days after first true leaf.  |
| FRUITING VEGETABLES Such as: Tomato Pepper Okra Eggplant |                   |  | 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 at first new growth. For direct-seeded tomato, applications at approximately 14-day intervals are recommended beginning 14 days after first true leaf. [ALTERNATE TEXT]: Begin applications prior to first bloom. Repeat at 14-28-day intervals. For direct seeded plants begin 14 days after first true leaf. |

| CUCURBITS Such as: Cucumber Melon Squash LEAFY AND COLE CROPS Such as: Bok Choy Broccoli Cabbage Cauliflower Celery Chard, Lettuce Spinach ONION GARLIC SCALLION | Begin applications at first new growth and repeat at approximately 14-day intervals. [ALTERNATE TEXT]: For best results begin applications prior to first bloom. Repeat at 14-28-day intervals. For direct seeded plants begin 14 days after first true leaf. |
|--|---|
| SWEET CORN   | Apply at approximately 14-day intervals beginning at first new growth.  [ALTERNATE TEXT]: Begin applications prior to first bloom. Repeat at 14-28-day intervals. For direct seeded plants begin 14 days after first true leaf.                               |

Messenger is recommended to aid in the management of the following diseases:
Cucurbits: cucumber mosaic virus (CMV), and tobacco mosaic virus (TMV).
Fruiting vegetables: CMV. Bacterial speck (Pseudomonas syringae) in tomatoes, bacterial leaf spot (Xanthamonas campestris) in peppers, and foliar bacterial

diseases in other fruiting vegetables.

Pepper: bacterial leaf spot and Phytophthora root rot.

Tomato: bacterial leaf spot, bacterial wilt, Fusarium wilt, Phytophthora root rot, CMV, and root knot nematodes.

Use Messenger at 4.5 oz/acre to boost overall production of both processing and fresh

**Field Crops** 

| Crop                   | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre) | Timing  |
|------------------------|-------------------|------------------------|---|
| LEGUMES                | 2.25-9            | 10-200 by              | Apply at approximately 14-day intervals   |
| Such as:               |                   | ground                 | beginning at first new growth.  |
| Beans                  |                   | Minimum 3              | [ALTERNATE TIMING]: Apply after   |
| Peas                   |                   | by air                 | complete emergence. Repeat at   |
| Lentils                |                   |                        | approximately 14-day intervals as   |
| Peanut                 |                   |                        | needed.   |
| Soybean                |                   |                        |   |
| COTTON                 |                   |                        | Apply 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. [ALTERNATE TEXT]: |
|                        |                   |                        | Apply between 2 leaf stage and mid-<br>bloom.   |
| TUBER                  | 1                 |                        | Apply at approximately 14-day intervals   |
| CROPS                  |                   |                        | beginning at first new growth.  |
| Such as:               |                   |                        | [ALTERNATE TEXT]: Apply at tuber  |
| Potato                 |                   |                        | initiation. Repeat applications as needed   |
| Sweet Potato           |                   |                        | every 21-28 days  |
| Yams                   |                   |                        | ,   |
| FORAGE                 |                   |                        | Apply at approximately 14-day intervals   |
| CROPS                  |                   |                        | beginning after new growth commences  |
| Such as:               |                   |                        | and at cutting. [ALTERNATE TEXT]:   |
| Alfalfa hay            |                   |                        | Apply after new growth commences and  |
| Timothy hay            |                   |                        | at each cutting. For newly seeded crops   |
| Timouny may            |                   |                        | begin at first true leaf.   |
| CORN (grain,           |                   |                        |   |
| silage, seed, or       |                   |                        | Apply at approximately 14-day intervals<br>beginning at new growth, [ALTERNATE  |
| popcom)                |                   |                        | TEXT]: Apply after complete emergence   |
| popcorii)              |                   |                        | during vegetative growth phase.   |
|                        |                   |                        | during vegetative growth phase.   |
| OIL AND SEED           |                   |                        | Begin applications at new growth,   |
| CROPS                  |                   |                        | followed at approximately 14-day  |
| Such as:               |                   |                        | intervals through harvest. [ALTERNATE   |
| Canola                 |                   |                        | TEXTI: Apply after complete emergence   |
| Jojoba                 |                   |                        | during vegetative growth phase.   |
| Mint                   |                   |                        | during vogotative growth phase.   |
| Safflower              |                   |                        |   |
| Sesame                 |                   |                        |   |
| Sunflower              |                   |                        |   |
| ROOT CROPS             |                   |                        | Apply at approximately 14 day intervals   |
| Such as:               |                   |                        | Apply at approximately 14-day intervals<br>beginning at new growth, [ALTERNATE  |
| Beets                  |                   |                        | TEXT]: Apply after complete emergence   |
| Carrots                | 1                 |                        |   |
|                        |                   |                        | during vegetative growth phase.   |
| Ginger Root<br>Ginseng |                   |                        |   |
| Parsnips               |                   |                        | · ·   |
| Radish                 |                   |                        |   |
|                        |                   |                        |   |
| Rutabagas              |                   |                        |   |
| Turnips                |                   |                        |   |
| RICE                   |                   | 11                     | Apply at approximately 14-day intervals   |
| SMALL                  |                   |                        | beginning at new growth. Apply as   |
| GRAINS                 |                   |                        | needed for wheat sheath blight.   |
| Such as:               |                   |                        | [ALTERNATE TEXT]: Apply after   |
| Barley                 |                   |                        | complete emergence during vegetative  |
| Flax                   |                   |                        | growth phase.   |
| Oats                   |                   |                        |   |
| Rye                    |                   |                        |   |
| Wheat                  |                   |                        |   |
| SORGHUM                |                   |                        |   |

| SUGARCANE | Apply at approximately 14-day intervals |
|-----------|---|
|           | beginning after new growth commences    |
|           | or after each cutting.                  |

Messenger is recommended to aid in the management of the following diseases:

Peanut: leaf spot diseases (Cercospora sp. and Cercosporidum sp.).

Rice: stem rot (Sclerotium oryzae), bacterial leaf blight (Xanthomonas oryzae), and sheath blight (Rhizoctonia solani).

Small Grains: wheat sheath blight (Rhizoctonia solani).

Messenger is recommended for suppression of nematode egg production in cotton.

#### Tobacco

| Crop                 | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre)                       | Timing   |
|----------------------|-------------------|--|--|
| TOBACCO<br>All types | 4.5-13.35         | 10-200 by<br>ground.<br>Minimum 3 by<br>air. | Apply at approximately 14-day intervals beginning 7 days after transplanting through harvest. [ALTERNATE TEXT]: Begin applications when plants are established. Repeat at 21-28-day intervals as needed. |

Messenger is recommended to aid in the management of the following diseases: Tobacco: blue mold (Peronospora tabacina), Fusarium wilt (Fusarium oxysporum), tobacco cyst nematode (Globodera solanacearum), and TMV (tobacco mosaic virus).

#### **Berries and Small Fruit**

| Crop  | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre)                 | Timing   |
|---|-------------------|--|--|
| BERRIES AND<br>SMALL FRUIT<br>Such as:<br>Blackberry<br>Blueberry<br>Boysenberry<br>Cranberry<br>Current<br>Raspberry<br>Strawberry | 2.25<br>13.35     | 10-200 by ground.<br>Minimum 3 by air. | Apply at approximately 14-day intervals while plants are actively growing, beginning in the greenhouse or nursery, and after transplanting, as appropriate. For fall transplanted strawberries resume applications in spring. [ALTERNATE TEXT]: Begin applications when plants are established. Repeat at 21-28-day intervals as needed. |

Messenger is recommended to aid in the management of the following diseases: Raspberry: Botrytis (Botrytis cinerea).

Strawberry: Botrytis cinerea and Fusarium wilt (Fusarium oxysporium).

#### **Trees and Vines**

| Crop  | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre)                       | Timing  |
|---|-------------------|--|---|
| AVOCADO   | 6.67-13.35        | 10-200 by<br>ground.<br>Minimum 3<br>by air. | Apply at approximately 14-day intervals beginning at new growth. [ALTERNATE TEXT]: Apply at 21-35-day intervals beginning before bloom initiation.  |
| CITRUS Such as: Grapefruit Mineolas Lemon Lime Orange Pumelo Tangelo Tangerine              |                   |  | Apply at approximately 14-day intervals beginning at new growth. [ALTERNATE TEXT]: Apply at 21-35-day intervals beginning before bloom initiation.  |
| NUT TREES Such as: Almond Filbert Macadarnia Pecan Pistachio Walnut                         |                   |  | Apply at approximately 14-day intervals beginning at new growth. [ALTERNATE TEXT]: Apply at 21-35-day intervals beginning before bloom initiation.  |
| POME FRUIT Apple Pear STONE FRUIT Such as: Cherry Olive Nectarine Peach Plumb Prune         |                   |  | Apply 2 pre-bloom sprays beginning at new growth and again 7-10 days later, followed by post-bloom sprays at approximately 14-day intervals. [ALTERNATE TEXT]: Apply at 21-35-day intervals beginning before bloom initiation. For peaches, apply at pit hardening and again 21 days later. |
| VINE CROPS<br>Such as:<br>Grape (juice,<br>raisin, table, and<br>wine)<br>Kiwifruit<br>Hops | 4.5-13.35         | 10-200 by<br>ground.<br>Minimum 3<br>by air. | Apply at approximately 14-day intervals beginning when new shoot growth is present. Under moderate to heavy disease pressure alternating or tank mixing with other products is recommended. [ALTERNATE TEXT]: Apply at 21-28 day intervals beginning when new shoot growth is present.      |
| TREES<br>Conifer<br>Broadleaf   | 6.67-13.35        | 10-200 by<br>ground.<br>Minimum 3<br>by air. | Apply at approximately 14-day intervals beginning<br>after complete emergence   |

Messenger is recommended to aid in the management of the following diseases:
Apple: apple scab (Venturia inaequalis) and fire blight (Erwinia amylovora).
Citrus: bacterial leaf spot (Xanthomonas campestris pv citrumeld, citrus scab (Elsinoe

fawcettii), greasy spot (Mycosphaerella citri), and Alternaria brown spot (Alternaria alternata pv citri). Post-harvest diseases such as citrus green mold (Penicillium digatum) and citrus blue mold (Penicillium italicum).

Grapes: Botrytis bunch rot (Botrytis cinerea), powdery mildew, and black rot (Guignardia bidwellii).

Pear: fire blight (Erwinia amylovora).

Trees: Botrytis gray mold (Botrytis cinerea).

Messenger is recommended to boost overall production of citrus.

#### **Turf and Ornamentals**

| Crop  | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre)                        | Timing  |
|---|-------------------|---|---|
| TURF  | 2-6.75            | 10-200 by<br>ground.<br>Mini mum 3<br>by air. | Apply at approximately 14-day intervals beginning 14 days after full emergence. [ALTERNATE TEXT]: Apply after complete emergence during vegetative growth phase. Repeat at 21-28-day intervals as needed.   |
| ORNAMENTALS Such as: Fresh Cut Flowers Bedding Plants Green Foliage Plants Woody Ornamentals Rose | 6-9               | 10-200 by<br>ground.<br>Minimum 3<br>by air.  | Apply 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. For roses, begin applications 7 days after grafted cuttings are planted and continuing at approximately14-17 day intervals. [ALTERNATE TEXT]: Begin applications prior to first bloom. Repeat at 21-28-day intervals or as needed. |

Messenger is recommended to aid in the management of the following diseases:

Fresh cut flowers, bedding plants, green foliage plants, and woody ornamentals: bacterial leaf blight (Xanthomonas campestris pv pelargonii).

Rose: black leaf spot (Diplocarpon rosas)

#### Specialty Crops

| Crop  | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre)                    | Timing  |
|---|-------------------|---|---|
| ALOE BANANA COFFEE FIGS HERBS Such as: Basil Chives Cilantro MANGO PAPAYA PINEAPPLE TARO ROOT | 2.25 –<br>13,35   | 10-200 by<br>ground. Minimum<br>3 by air. | Apply at 14-day intervals beginning 7 days after new growth/new spring growth is initiated. |

#### Grasses Grown For Seed

| Crop  | Rate<br>(Oz/Acre) | Dilution <sup>1</sup><br>(Gal/Acre) | Timing  |
|---|-------------------|-------------------------------------|---|
| TURF GRASSES SUCH as: Blue Grasses Fescues Rye Grasses FORAGE GRASSES Such as: Fescues Orchard Grasses Timothy Bronnes Wheat Grasses Grasses Other Native Species | 2.25 - 9          | 10 -200                             | Apply at 14-day intervals beginning 14 days after full emergence. |

#### Pre-harvest Applications for Post-harvest Benefits

| Сгор            | Rate<br>(Oz/Acre) | Dilution<br>(Gal/Acre) | Timing                                   |
|-----------------|-------------------|------------------------|--|
| Any Crop Listed | 6-10              | 20-200 by              | Apply 5-14 days before harvest. Use      |
| Elsewhere on    |                   | ground.                | higher rates if no previous applications |
| this Label      |                   | Minimum 3              | have been made.                          |

Messenger is recommended to aid in the management of the following diseases: Citrus: Post-harvest diseases such as citrus green mold (*Penicillium digatum*) and citrus blue mold (*Penicillium tisticum*).

#### 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. Use product within 3 weeks of opening and the same day as mixing. **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 darnages 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 falls 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 twentyone 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 BIOSCIENCE of any claims, they shall be barred from obtaining any remedy.

#### 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.

#### 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

OPTIONAL TAG LINES – For use individually or in combination on labels: A seed treatment for yield enhancement; Activates plant growth and defense systems; Plant Health Regulator; Suppresses nematode egg production; Increases Root Mass, Enhances Yield; Improves standability, Decreases lodging; Increases plant stamina and vigor; Enhances plant health; Facilitates Integrated Pest Management Programs; with Harp-N-Tek<sup>TM</sup>, Harp-N-Tek is Eden's trademark for its proprietary harpin protein technology]

## FOR USE ONLY BY COMMERCIAL SEED TREATMENT FACILITIES

#### Wettable Dry Granule

| ACTIVE INGREDIENT: |      |
|--------------------|------|
| Harpin Protein:    | 3.0% |
| OTHER INGREDIENTS: |      |
| 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 11816 North Creek Parkway North, Bothell, WA 98011-8201 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 wash waters.

#### **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, suppress nematode egg production, increase root mass, and to enhance crop quality and production.

#### **USE ADVISORIES**

#### 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 BIOSCIENCE 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 on the same day it is mixed with water. Reseal opened packets to minimize exposure to air and moisture. Use opened packets within 3 weeks.

#### 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, Cucurbit, Cole, and Other Crops

| Crop   | Rate                              |
|--|-----------------------------------|
| FRUITING VEGETABLES Such as: Tomato, Pepper, Okra, Eggplant                              | 0.35 - 5 oz.<br>per 100 lbs. seed |
| CUCURBITS Such as: Cucumber, Melon, Squash LEAFY AND COLE CROPS                          |                                   |
| Such as: Bok Choy, Broccoli, Cabbage, Cauliflower, Celery, Chard, Lettuce, Spinach ONION |                                   |
| GARLIC<br>SCALLION   |                                   |
| SWEET CORN   |                                   |

#### Field Crops

| Crop  | Rate              |
|---|-------------------|
| LEGUME VEGETABLES   | 0.35 - 5 oz.      |
| Such as: Beans, Peas, Lentils, and Soybeans   | per 100 lbs. seed |
| LEGUME FRESH and WET PROCESSING VEGETABLES  |                   |
| Such as: Peas, Green bean, and Snap beans   |                   |
| COTTON  | 1                 |
| TUBER CROPS   | ]                 |
| Such as: Potato, Sweet Potato, Yams   |                   |
| FORAGE CROPS  | 1                 |
| Such as: Alfalfa hay, Timothy hay   |                   |
| CORN (grain, silage or popcorn)   |                   |
| OIL AND SEED  | 1                 |
| CROPS   | 1                 |
| Such as: Canola (rape seed), Jojoba, Mint (peppermint and<br>spearmint), Safflower, Sesame, Sunflower |                   |
| PEANUT  | 1                 |
| ROOT CROPS  | 1                 |
| Such as: Beets, Carrots, Ginger Root, Ginseng, Parsnips, Radish, Rutabagas, Turnips                   |                   |
| RICE  | 1                 |
| SMALL GRAINS  |                   |
| Such as: Barley, Flax, Oats, Rye, Wheat,  |                   |
| SORGHUM   |                   |
| SUGARCANE   | ]                 |
| TUBER CROPS   |                   |
| Such as: Potato, Sweet Potato, and Yams   |                   |

#### Tobacco

|           | Crop | Rate              |
|-----------|------|-------------------|
| TOBACCO   |      | 0.35 - 5 oz.      |
| All types |      | per 100 lbs. seed |

#### Berries and Small Fruit

| Crop  | Rate              |
|---|-------------------|
| BERRIES AND SMALL FRUIT                                 | 0.35 - 5 oz.      |
| Such as: Blackberry, Blueberry, Boysenberry, Cranberry, | per 100 lbs. seed |
| Current, Raspberry, Strawberry                          |                   |

#### Trees and Vines

| Crop  | Rate                              |
|---|-----------------------------------|
| AVOCADO   | 0.35 – 5 oz.<br>per 100 lbs. seed |
| CITRUS Such as: Grapefruit, Mineolas, Lemon, Lime, Orange, Pumelo, Tangelo, Tangerine     |                                   |
| NUT TREES Such as: Almond, Filbert, Macadamia, Pecan, Pistachio, Walnut                   |                                   |
| POME FRUIT Apple, Pear STONE FRUIT Such as: Cherry, Olive, Nectarine, Peach, Plumb, Prune |                                   |
| VINE CROPS Such as: Grape (juice, raisin, table, and wine), Kiwifruit, Hops               |                                   |
| TREES<br>Conifer<br>Broadleaf   |                                   |

#### **Turf and Ornamentals**

| Crop  | Rate              |
|---|-------------------|
| TURF GRASS  | 0.35 - 5 oz.      |
| ORNAMENTALS (Bulbs, Seeds or Tubers)                          | per 100 lbs. seed |
| Such as: Flowers, Bedding Plants, Foliage Plants, ornamentals |                   |

#### Specialty Crops

| Crop                                       | Rate                              |
|--|-----------------------------------|
| ALOE<br>BANANA                             | 0.35 – 5 cz.<br>per 100 lbs. seed |
| COFFEE                                     |                                   |
| FIGS                                       |                                   |
| HERBS                                      |                                   |
| Such as: Basil, Chives, Cilantro,<br>MANGO |                                   |
| PAPAYA                                     |                                   |
| PINEAPPLE TARO ROOT                        |                                   |

#### **Grasses Grown For Seed**

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

#### 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. Use product within 3 weeks of opening and the same day as mixing.

#### 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, inferences 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 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 OLD IN THE PRODUCT OF THE PROPERTY OF THE PROPE

#### 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.

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 of the 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 twentyone 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 BIOSCIENCE of any claims, they shall be barred from obtaining any remedy.

#### 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.

#### 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 contents of the particle of the parts as described herein

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#### Section C. Pre-plant Seed Treatment

### **MESSENGER**

#### **Pre-plant Seed Treatment**

[OPTIONAL TAG LINES – For use individually or in combination on labels: A biochemical pesticide seed treatment that: Activates plant growth and defense systems; Plant Health Regulator; Improves stand establishment; Suppresses nematode egg production: Enhances crop growth, quality and yield; Increases Root Mass, Improves standability, Decreases lodging; Increases plant stamina and vigor; Activates plant growth and defense systems; Aids in management of post-harvest diseases; Enhances plant health; Facilitates Integrated Pest Management Programs; with Harp-N-Tek<sup>TM</sup>, Harp-N-Tek is Eden's trademark for its proprietary harpin protein technology]

#### Dry Powder

# ACTIVE INGREDIENT: 3.0% Harpin Protein: 3.0% OTHER INGREDIENTS: 97.0% Total: 100%

# KEEP OUT OF REACH OF CHILDREN CAUTION PRECAUCION

EPA Est. No. 69834-WA-001



EPA Reg. No. 69834-2

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:

EDEN BIOSCIENCE Corporation 11816 North Creek Parkway North, Bothell, WA 98011-8201 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

#### 0,1011011

#### 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. 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.

#### 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.

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 plant, soil, or water is:

- Coveralls:
- Waterproof gloves; and
- Shoes and socks.

#### PRODUCT INFORMATION

Messenger stimulates the plant's natural growth and defense systems, enhancing overall plant health. Healthier plants exhibit increased plant stamina and vigor, leading to one or more of the following benefits: improved stand and root establishment, suppressed nematode egg production, increased marketable yield, and enhanced quality. Messenger works best when used in conjunction with good crop management practices.

#### **GENERAL INSTRUCTIONS**

#### **GROWTH ENHANCEMENT AND MARKETABLE YIELD**

Use Messenger to increase plant health and vigor, to assist in the management of certain diseases, to suppress nematode egg production, to improve stand and root establishment, and to enhance crop quality and marketable production.

#### SITES

Messenger may be used for greenhouse, shadehouse, nursery, outdoor home and garden, and field production on all crops listed on this label.

#### USE ADVISORIES

#### **USE PROMPTLY**

Use product promptly to minimize absorption of water. Reseal opened packets to minimize exposure to air and moisture. Use opened packets within 3 weeks.

#### MIXING

Messenger may be used in addition to other commercial seed treatments and in conjunction with other dry hopper box treatments. Messenger should only be applied to dry seed. Do not mix Messenger with water.

Check with your local EDEN BIOSCIENCE field representative or EDEN BIOSCIENCE Customer Service for specific compatibility information for Messenger and other labeled products.

#### **APPLICATION INSTRUCTIONS**

Apply Messenger as a dry pre-plant seed treatment. Product may be applied to dry seed using standard seed treatment equipment or applied directly to the hopper box. When applying directly to the hopper box, fill half the hopper box with seed and sprinkle the appropriate half-rate of Messenger over seed. Finish filling the hopper box with seed and sprinkle the remaining Messenger over the new seed. Messenger may be used in addition to commercial seed treatments and in conjunction with other dry hopper box treatments.

#### CROPS AND APPLICATION RATES

#### Vegetable, Cucurbit, Cole, and Other Crops

| Crop  | Rate              |
|---|-------------------|
| FRUITING VEGETABLES   | 0.35 - 5 oz.      |
| Such as: Tomato, Pepper, Okra, Eggplant                           | per 100 lbs. seed |
| CUCURBITS   |                   |
| Such as: Cucumber, Melon, Squash                                  |                   |
| LEAFY AND COLE CROPS  |                   |
| Such as: Bok Choy, Broccoli, Cabbage, Cauliflower, Celery, Chard, |                   |
| Lettuce, Spinach  |                   |
| ONION   |                   |
| GARLIC  |                   |
| SCALLION  |                   |
| SWEET CORN  |                   |

**Field Crops** 

| Crop   | Rate              |
|--|-------------------|
| LEGUME VEGETABLES  | 0.35 - 5 oz.      |
| Such as: Beans, Peas, Lentils, and Soybeans  | per 100 lbs. seed |
| LEGUME FRESH and WET PROCESSING VEGETABLES   |                   |
| Such as: Peas, Green bean, and Snap beans  |                   |
| COTTON   | · ·               |
| TUBER CROPS  | 1                 |
| Such as: Potato, Sweet Potato, Yams  |                   |
| FORAGE CROPS   |                   |
| Such as: Alfalfa hay, Timothy hay  |                   |
| CORN (grain, silage or popcorn)  |                   |
| OIL AND SEED   | 1                 |
| CROPS  |                   |
| Such as: Canola (rape seed), Jojoba, Mint (peppermint and                          |                   |
| spearmint), Safflower, Sesame, Sunflower   |                   |
| PEANUT   | 1                 |
| ROOT CROPS   | 1                 |
| Such as: Beets, Carrots, Ginger Root, Ginseng, Parsnips, Radish, Rutabag as,Tumips |                   |
| RICE   | 1                 |
| SMALL GRAINS   | 1                 |
| Such as: Barley, Flax, Oats, Rye, Wheat,   |                   |
| SORGHUM  |                   |
| SUGARCANE  |                   |
| TUBER CROPS  |                   |
| Such as: Potato, Sweet Potato, and Yams  |                   |

#### Tobacco

| Сгор                    | Rate              |
|-------------------------|-------------------|
| TOBACCO                 | 0.35 – 5 oz.      |
| All types               | per 100 lbs. seed |
| Porrios and Small Eruit |                   |

#### Berries and Small Fruit

| Crop  | Rate              |
|---|-------------------|
| BERRIES AND SMALL FRUIT                                 | 0.35 - 5 oz.      |
| Such as: Blackberry, Blueberry, Boysenberry, Cranberry, | per 100 lbs. seed |
| Current, Raspberry, Strawberry                          |                   |

#### Trees and Vines

| Crop  | Rate                              |
|---|-----------------------------------|
| AVOCADO   | 0.35 - 5 oz.<br>per 100 lbs. seed |
| CITRUS<br>Such as: Grapefruit, Mineolas, Lemon, Lime, Orange, Pumelo,<br>Tangelo, Tangerine |                                   |
| NUT TREES Such as: Almond, Filbert, Macadamia, Pecan, Pistachio, Walnut                     |                                   |
| POME FRUIT Apple, Pear STONE FRUIT Such as: Cherry, Olive, Nectarine, Peach, Plumb, Prune   |                                   |
| VINE CROPS Such as: Grape (juice, raisin, table, and wine), Kiwifruit, Hops                 |                                   |
| TREES<br>Conifer<br>Broadleaf   |                                   |

#### **Turf and Ornamentals**

| Crop   | Rate              |
|--|-------------------|
| TURF GRASS   | 0.35 - 5 oz.      |
| ORNAMENTALS (Bulbs, Seeds or Tubers) Such as: Flowers, Bedding Plants, Foliage Plants, ornamentals | per 100 lbs. seed |

**Specialty Crops** 

| Crop   | Rate                              |
|--|-----------------------------------|
| ALOE<br>BANANA<br>COFFEE<br>FIGS   | 0.35 – 5 oz.<br>per 100 lbs. seed |
| HERBS Such as: Basil, Chives, Cilantro, MANGO PAPAYA PINEAPPLE TARO ROOT |                                   |

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#### **Grasses Grown For Seed**

| Crop   | Rate                              |
|--|-----------------------------------|
| TURF GRASSES Such as: Blue Grasses,Fescues, Rye Grasses FORAGE GRASSES Such as: Fescues, Orchard Grasses, Timothy, Bromes, Wheat Grasses, Other Native Species | 0.35 – 5 oz.<br>per 100 lbs. seed |

#### 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. Use product within 3 weeks of opening.

#### 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 his 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 wenty-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 BIOSCIENCE of any claims, they shall be barred from obtaining any remedy.

#### MIXES

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 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.

### Section D. 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; Concentrate; For Healthier Plants; Healthier Plants Better Blooms; Plant Health Regulator; Growth Stimulator; Larger Harvests; Easy to Use; Broad Spectrum; Promotes Plant Growth for Superior Gardens; Breakthrough Technology; Revolutionary; Effective; Economical: Increases root mass; Improves the health of every plant you grow! Improves the health of every plant in your garden! Improves the health of every plant you grow 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; Mix and Spray, or Simply Mix and Spray, or Mix and Spray Every Three Weeks, or Simply Mix and Spray Every Three Weeks; Harp-N-Tek is Eden's trademark for its proprietary harpin protein technology; For Use in Water Gardens and Ornamental Ponds; Delivering stronger and healthier plants; with Harp-N-TekTM, Harp-N-Tek is Eden's trademark for its proprietary harpin protein technology]

| ACTIVE INGREDIENT: |
|--------------------|
|--------------------|

| Harpin Protein: | 3.0%  |
|-----------------|-------|
|                 | 97.0% |
|                 | 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



Net Weight:

[OPTIONAL – Packed for:]
EDEN BIOSCIENCE Corporation • 11816 North Creek Parkway North,
Bothell, WA 98011-8201
1-888-879-2420 [And/Or] www.edenbio.com

[OPTIONAL] See Back Panel for additional precautionary statements

#### **DIRECTIONS FOR USE**

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

Messenger is 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.

Messenger may be used on all plants grown indoors and outdoors, including Roses and other Flowers, Vegetables, Fruiting Trees, Berries, Vines, Herbs, Root Crops, Floating and Emergent Aquatic Plants in Water Gardens and Ornamental Ponds, and all ornamental plants such as Trees, Shrubs, and Turf. ALTERNATE LANGUAGE FOR CALIFORNIA: See further instructions for use in California.

**IN CALIFORNIA** – Messenger may be used on the following crops for the uses specified below:

| Crop  | Use in California   |
|---|---|
| <u>Citrus</u><br>(such as orange, grapefruit,<br>tangelo, tangerine, and lemon) | To boost overall production and as<br>an aid in control of post harvest<br>diseases such as citrus green<br>mold and citrus blue mold |
| Fruiting vegetables<br>(tomato, pepper, eggplant,<br>etc.)                      | To aid in disease management (bacterial speck, leaf spot)   |
| Grape<br>(such as juice, raisin, table,<br>and wine)                            | To aid in disease management (powdery mildew, bunch rot)  |
| Strawberry  | To aid in disease management<br>(Botrytis cinerea)  |

People and Pets may enter treated areas after spray has dried. Wash your hands after use.

#### Mixing and Application Instructions

- Add one packet (0.35 oz.) to 3 gallons of water [ALTERNATE LANGUAGE FOR SMALL PACKET S: Add one packet (0.03 oz.) to 1 quart of water OR Add one packet (0.12 oz.) to 1 gallon of water] (½ teaspoon per quart of water) and mix thoroughly. [ALTERNATE LANGUAGE FOR 8 oz. (or 2 oz.) PACKET: Add 8 oz. (2 oz.) to 100 (25) gallons of water (approximately 1 teaspoon per gallon or 1/3 cup per 25 gallons) and mix thoroughly. Apply 1-2 gallons per 1,000 square feet.]
- Apply mixed product to plant foliage with a pump sprayer, mister, watering can, or other suitable applicator. Apply as a fine mist for most efficient coverage.
- Apply when plants are actively growing. For best results, continue applications every 3 weeks through harvest, until first frost, or until plants become dormant.
- Apply product the same day it is mixed. Re-apply if it rains within 30 minutes of application.
- Reseal opened packets to minimize exposure to air and moisture.
   Use opened packets within 3 w eeks.

#### 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.

#### **PRECAUTIONARY STATEMENTS**

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly towater. Do not contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate.

NOTICE: Buyer assumes all responsibility forsafety and use not in accordance with directions.

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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

#### Section E. Non-Agricultural Use – Seed Treatment

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.

## **M**essenger®

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

Seed Treatment for strong, healthy, plants; 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; Plant Health Regulator; Growth Stimulator; Larger Harvests; Easy to Use; Broad Spectrum; Promotes Plant Growth for Superior Gardens; Breakthrough Technology; Revolutionary; Effective; Economical; Improves the health of every plant you grow! Improves the health of every plant in your garden! Improves the health of every plant you grow in your Garden! Fruits •Garden Flowers & Shrubs • House Plants • Vegetables • Grass See; Boost overall growth and production; Improve plant stamina & vigor; Strengthen a plant's resistance to disease; Harp-N-Tek is Eden's trademark for its proprietary harpin protein technology; Delivering stronger and healthier plants; with Harp-N-Tek<sup>TM</sup>, Harp-N-Tek is Eden's trademark for its proprietary harpin protein technology]

#### **ACTIVE INGREDIENT:**

|        |              | 3.0%  |
|--------|--------------|-------|
| INER   | INGREDIENTS: | 97.0% |
| Total: |              | 100%  |

EPA Reg. No. 69834-WA-001 [ALTERNATE RE-PACKER'S EPA Est. No.: 75447-CA-001]

#### KEEP OUT OF REACH OF CHILDREN



Net Weight:

#### [OPTIONAL - Packed for:]

EDEN BIOSCIENCE Corporation • 11816 North Creek Parkway North, Bothell, WA 98011-8201 1-888-879-2420 [And/Or] www.edenbio.com

[OPTIONAL] See Back Panel for additional precautionary statements

#### **DIRECTIONS FOR USE**

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

Messenger is derived from a naturally occurring protein (harpin). 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.

Messenger may be used on all seeds or tubers planted indoors and outdoors, Fruits, Flowers, Vegetables, Herbs and Turf.

Wash your hands after use.

#### Mixing and Application Instructions

#### For large quantities of seed:

Place seed in plastic or paper bag (or use container in which seed was packed). Add ¼ teaspoon of Messenger ST for each pound of seed (each bottle contains 2 teaspoons of Messenger ST). Shake vigorously to create a light uniform dust on seeds. Follow planting instructions on seed container. Close lid on bottle to minimize

exposure to air and moisture. Use opened bottles within one planting season.

#### For small quantities of seed:

Treat seed in the seed packet or transfer seed to a small paper or plastic bag for treatment. For each teaspoon of seed to be treated, add 2-4 puffs of Messenger ST to the seed packet or bag and shake vigorously to create a light, uniform dust on the seeds. Squeeze the bottle to produce a puff (each bottle contains about 400 puffs). Follow planting instructions on seed package. Close lid on bottle to minimize exposure to air and moisture. Use opened bottles within one planting season.

[ALTERNATE Mixing & Application Instructions for 2 oz. BOTTLE:

Place seed in a container (or use container in which seed was packed). Add 1 teaspoon of Messenger for each 4 pounds of seed (each bottle contains enough Messenger to treat 100 pounds of seed). Shake or stir vigorously to create a light uniform dust on seeds. Follow planting instructions on seed container. Close lid on bottle to minimize exposure to air and moisture. Use opened bottles within one planting season.]

#### 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. Dispose of shaker bag in trash. Never place unused product down any indoor or outdoor drain.

#### PRECAUTIONARY STATEMENTS

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

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

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

MAY BE USED UP TO THE DAY OF HARVEST

#### What does Messenger do?

- Increases root mass and uniformity in germination
- 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]

05.1227 US-Master[AMEND].M3[AG,CST,ST,H&G, H&GST]