

81045-2

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Mr. Bruce Jaeger
Plant Defense Boosters, Inc.
c/o Health and Environmental Horizons, LTD.
2851 South Haven Road
Annapolis, MD 21401

APR 24 2009

Subject: Plant Defense Boosters, Inc.; ELEXA 4
EPA Registration No. 81045-2
Label and CSF Amendment with Data (New Source of Active Ingredient); B680
D# 403804, Application Dated 1/13/9

Dear Mr. Jaeger:

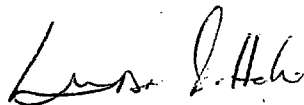
The amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit two (2) copies of your final printed labeling before you release the product for shipment. Final printed labeling means the label or labeling of the product when distributed or sold. Clearly legible reproductions or photo reductions will be accepted for unusual labels, such as those silk-screened directly onto glass or metal containers or large bags or drum labels.

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

If you have any questions contact Chris Pfeifer at 703-308-0031 or by email at: pfeifer.chris@epa.gov. A stamped copy of the label is enclosed for your records.

Sincerely,



Linda A. Hollis, Chief
Biochemical Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)

Enclosure

CONCURRENCES

SYMBOL	▶ 7511P						
SURNAME	▶ PFEIFER						
DATE	▶ 4/16/9						

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ELEXA[®] 4

PLANT DEFENSE BOOSTER

ACTIVE INGREDIENT: Chitosan (poly-D-glucosamine)* % w/w
3.96%

OTHER INGREDIENTS: 96.04%

Total 100.0%

* Contains 0.32 pounds of active ingredient per gallon of product (equivalent to 38 grams of active ingredient per liter of product)

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID STATEMENTS	
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> o Take off contaminated clothing. o Rinse skin immediately with plenty of water for 15-20 minutes. o Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"> o Hold eye open and rinse slowly and gently with water for 15-20 minutes. o Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. o Call a poison control center or doctor for treatment advice.
<p align="center">Hotline Number</p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 seven days a week, 6:30 am to 4:30 pm Pacific Time (NPIC Web site: www.npic.orst.edu)</p>	

See side/back panels for additional precautionary statements

EPA Reg. No. 81045-2
EPA Est. No.61842-CA-001

ACCEPTED

Net Contents: 2.5 Gallons

APR 24 2009

Under the Federal Insecticide, Fungicide,
and Rodenticide Act, as amended, for
the pesticide registered under
EPA Reg. No. 81045-2

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse. Wear the appropriate Personal Protective Equipment (PPE)

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators, mixers, loaders and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.
- Waterproof gloves.
- Protective eyewear.

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

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

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 or rinsate. Do not allow runoff into lakes, streams, ponds or public waterways.

PHYSICAL OR CHEMICAL HAZARDS

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

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

ELEXA-4 is a Plant Defense Booster. The active ingredient in ELEXA-4 is derived from basic carbohydrate sources. Application of ELEXA-4 elicits phytoalexins in the plant's defense system, protecting against certain plant pathogens.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 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:

- o Coveralls
- o Waterproof gloves
- o Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, and greenhouses. Do not enter treated area without protective clothing until sprays have dried.

MIXING AND APPLICATION INSTRUCTIONS

ELEXA-4 is an aqueous product. Mix ELEXA-4 with clean water at the rate shown in the use directions below. To prepare the solution, add one half the total amount of water, add the desired volume of ELEXA-4 and complete with water to the total volume required. Addition of a food use surfactant improves adhesion and provides superior results. The pH of the final solution should be between 5.7 and 6.3 for optimum results.

Early-season Applications - Apply ELEXA-4 with lower volumes of water in the early stages of plant growth. This stage occurs from planting, or bud break in annuals, through early stages of leaf growth and expansion. For lower volumes of spray, such as 25 gallons per acre (gpa), dilute ELEXA-4 in water at a ratio as low as 1 part ELEXA-4 to 19 parts water (a final tank mix ratio of 1:20). For higher spray volumes up to 100 gpa, dilute ELEXA-4 in water at a ratio of 1 part ELEXA-4 up to 39 parts water (a final tank mix ratio of 1:40). As an example, use 2.5 gallons of ELEXA-4 in 97.5 gallons of water for a final spray.

volume of 100 gpa. Increase the rate of ELEXA-4 to the concentrations shown below if disease pressure becomes severe. Apply ELEXA-4 on a 7-14 day schedule depending upon disease pressure.

Mid-season Applications - During mid-season, increase application rates of ELEXA-4 as the amount of water applied increases. During this stage, plants are growing actively with continued leaf expansion, but prior to the later stages of the plant's development. The ELEXA-4 rate will vary depending upon the type of plant, spray equipment used and grower's standard practices. Dilute ELEXA-4 in water at a ratio of between 1 part ELEXA-4 and 19 to 39 parts water. As an example, it is generally recommended that ELEXA-4 be applied at a rate of 2.5 gallons in 100 gallons of final spray volume (2.5% ELEXA-4 or 0.1% a.i. per acre on a v/v basis). As in early-season applications, use higher rates of ELEXA-4 when disease pressure is highest, e.g. up to 5.0 gallons in 100 gallons of final spray volume. Apply ELEXA-4 on a 7-14 day schedule depending upon disease pressure.

Late-season Applications - During the latter part of the growing season when the plant's canopy is fully expanded and it is more difficult to get full coverage, higher volumes of water will be needed. ELEXA-4 can be diluted in water at a ratio of between 1 part ELEXA-4 and 29 to 39 parts water. Again, use higher rates if disease pressure is high. The maximum rate to use during late-season applications is 7.5 gallons of ELEXA-4 in 300 gallons of final spray volume, or 1 part ELEXA-4 in 39 parts water. Apply ELEXA-4 on a 7-14 day schedule depending upon disease pressure.

Cleaning Application Equipment

To prevent contamination of the dilute solution of ELEXA-4 by possible pesticides or other chemical residues in the spraying equipment, make sure that the equipment is thoroughly clean before and after use.

Special Application Rate Table for use on Grapes¹

Season and Growth Stage of Plant	Final Spray Volume (gpa)	Volume of ELEXA In Tank (gpa)	Ratio of ELEXA to water in Final Spray Tank	Amount of A.I. per acre (lbs)
Early season (young plants with limited growth)	25 to 100	1.25 to 2.5	1:20 to 1:40	0.4 to 0.8
Mid-season (plants in active growth stage)	75 to 150	2.5 to 3.75	1:20 to 1:40	0.8 to 1.2
Late-season (canopy of plant fully expanded)	125 to 300	3.0 to 7.5	ca 1:40	0.35 to 2.4

¹The concept used in calculating rates to be applied on grapes is used on other crops below.

Crops, Rates and Diseases which ELEXA 4 Provides Protection Against

Crops	Rate of ELEXA	Protection Against The Following Diseases	Specific Instruction (also refer to Mixing and Application Instructions)
<u>Tree Fruit:</u> Apples Cherries Grapefruit Lemons Limes Nectarines Oranges Peaches Pears Plums Prunes Tangerines	1.25 - 7.5 gal/acre (0.4 - 2.4 lbs a.i./acre) in Final spray volume of 25 to 300 gal*/acre *Adjust application rate depending upon tree size, size of leaves and spray equipment used.	Powdery Mildew (various species)	Apply diluted spray at a rate of at least 25 gal/acre using conventional spray equipment. <u>Apply ELEXA-4 before disease symptoms appear.</u> Repeat applications on 7-14 day intervals.
<u>Vegetables:</u> Beans Carrots Cucumbers Eggplant Garlic Ginseng Herbs Leeks Lentils Lettuce Melons Onions Peas Peppers Potatoes Pumpkins Squash Strawberries Sweet Potatoes Tomatoes	1.25 - 5.0 gal/acre (0.4 - 1.6 lbs a.i./acre) in Final spray volume of 25 to 200 gal*/acre * Adjust application rate depending upon tree size, size of leaves and spray equipment used.	Powdery Mildew (various species) Downy Mildew (various species) Early Blight, Late Blight (Phytophthora infestans) Gray Mold (Botrytis cineria)	Apply diluted spray at a rate of at least 25 gal/acre using conventional spray equipment. <u>Apply ELEXA-4 before disease symptoms appear.</u> Repeat applications on 7-10 day intervals.
Grapes	1.25 - 7.5 gal/acre (0.4 - 2.4 lbs a.i./acre) in Final spray volume of 25 to 300 gal*/acre * Adjust application rate depending upon tree size, size of leaves and spray equipment used.	Powdery Mildew (various species) Downy Mildew (various species)	Apply diluted spray at a rate of at least 25 gal/acre using conventional spray equipment. <u>Apply ELEXA-4 before disease symptoms appear.</u> Repeat applications on 7-14 day intervals. Higher final spray volumes and higher rates of ELEXA- 4 are recommended on table grapes as plant canopies tend to be larger than on wine grapes.

<u>Greenhouse and Nursery Plants:</u> Potted plants Flowers (roses, etc) Vegetables Herbs Shrubs Fruit trees	1.25 - 5.0 gal/acre (0.4 - 1.6 lbs a.i./acre) in Final spray volume of 25 to 200 gal*/acre * Adjust application rate depending upon tree size, size of leaves and spray equipment used.	Powdery Mildew (various species) Downy Mildew (various species) Gray Mold (Botrytis cineria)	Apply diluted spray at a rate of at least 25 gal/acre using conventional spray equipment. <u>Apply ELEXA-4 before disease symptoms appear.</u> Repeat applications on 7 day intervals as needed.
<u>Turf:</u> Bent grass Bermuda grass Bluegrass Centipede grass Dichondra Fescue Rye grass Wheat grass Zoysia grass St. Augustine	1.25 - 5.0 gal/acre (0.4 - 1.6 lbs a.i./acre) in Final spray volume of 25 to 200 gal*/acre * Adjust application rate depending upon tree size, size of leaves and spray equipment used.	Powdery Mildew (various species) Leaf Spot Anthracnose	Apply diluted spray at a rate of at least 25 gal/acre using conventional spray equipment. <u>Apply ELEXA-4 before disease symptoms appear.</u> Repeat applications on 7 day intervals as needed.
<u>Grain crops:</u> Barley Oats Rice Wheat	1.25 - 5.0 gal/acre (0.4 - 1.6 lbs a.i./acre) in Final spray volume of 25 to 200 gal*/acre * Adjust application rate depending upon tree size, size of leaves and spray equipment used.	Sheath Blight Powdery Mildew (various species) Blast	Apply diluted spray at a rate of at least 25 gal/acre using conventional spray equipment. <u>Apply ELEXA-4 before disease symptoms appear.</u> Repeat applications on 7 day intervals as needed.

GREENHOUSE USE

Use ELEXA-4 as directed for greenhouses. Prepare the spray mixture using one (1) part ELEXA-4 with nineteen (19) parts of water. Spray until plant runoff.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Do not contaminate water when disposing of equipment washwater or rinsate. Pesticide wastes may be toxic. Improper disposal of unused pesticide, washwater or rinse water is

a violation of federal law.

Container Disposal: Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

WARRANTY

Plant Defense Boosters, Inc. warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with the label directions under normal conditions of use. Plant Defense Boosters, Inc. makes no other express or implied warranties either of merchantability or fitness for a particular use. Handling, storage and use of the product by Buyer or User are beyond the control of Plant Defense Boosters, Inc. and Seller. To the extent permitted by applicable law, risks such as ineffectiveness or other unintended consequences resulting from, but not limited to, failure to follow label directions will be assumed by the Buyer or User.

The terms of this Limited Warranty and Disclaimer cannot be varied by any written or verbal statements or agreements. No employee or agent of the seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

Manufactured in U.S.A. by:
Plant Defense Boosters, Inc.
235 Harrison Street
Syracuse, New York 13210
315-472-1601