

LEAF-GUARD®

SYSTEMIC FUNGICIDE

FOR THE EFFECTIVE CONTROL OF VARIOUS PLANT DISEASES INCLUDING BLACK SPOT OR SCAB IN APPLE, BUD ROT AND DOWNY MILDEW IN CUCURBITS, GRAPE, LETTUCE, AND ONION, COLLAR ROT IN STONEFRUIT, LEATHER ROT AND FOLIAR DISEASES IN STRAWBERRY.

ACTIVE INGREDIENTS:

Mono- and di-potassium salts of Phosphorous Acid* 45.8%

OTHER INGREDIENTS: 54.2%

TOTAL: 100.0%

*Contains 5.17 lbs/gallon of the active ingredients, mono- and di-potassium salts of Phosphorous Acid. Equivalent to 3.35 lbs Phosphorous Acid/gallon.

**KEEP OUT OF REACH OF CHILDREN
CAUTION****CONSULT PAGE 1 OF THIS BOOKLET FOR FIRST AID &
PRECAUTIONARY STATEMENTS**

EPA Reg. No. 71962-1-71975 Est. No. 071975-WA-001

Batch No.

Date of Manufacture:

Net Contents:

Manufactured by:
NORTHWEST AGRICULTURAL PRODUCTS, INC
P.O. 3453, Pasco, WA 99302
Ph: 509-547-8234 • Fax: 509-547-8095

FIRST AID**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice
- Have person sip a glass of water if able to swallow
- Do not induce vomiting unless told to do so by a poison control center or doctor
- Do not give anything by mouth to an unconscious person

IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing
- Call poison control center or doctor for treatment advice

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing
- Rinse skin immediately with plenty of water for 15-20 minutes
- Call a poison control center or doctor for treatment advice

IF INHALED:

- Move person to fresh air
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable mouth-to-mouth, if possible
- Call a poison control center or doctor for further treatment advice

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Poison Control Hotline at 1-800-222-1222, 24 hours a day, 7 days a week.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION. Harmful if swallowed, inhaled or absorbed through skin. Avoid breathing vapors or spray mist. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

PERSONAL PROTECTION EQUIPMENT (PPE)

Applicators and other handlers must wear protective eyewear, long pants and long-sleeved shirt, waterproof gloves, shoes plus socks. Follow manufacturer's instructions for maintaining / cleaning personal protective equipment (PPE). If no such instructions for washables, use hot water and detergent. Keep and wash PPE separately from other laundry. When handlers use closed systems, aircraft or enclosed cabs in a manner that meets the requirements listed in the worker protection standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before drinking, eating, chewing gum, using tobacco or using the toilet.
- Remove PPE 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, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

DIRECTIONS FOR USE

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, CFR 40 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 are permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soils or water, is: coveralls, waterproof gloves, shoes plus socks and protective eyewear.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements of 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.

Do not enter treated areas without protective clothing until sprays have dried.

APPLICATION THROUGH SPRINKLER IRRIGATION SYSTEMS

Use of LEAF-GUARD® through chemigation is not permitted in California.

Apply this product through center pivot, solid set or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.

PREPARATION OF INJECTION EQUIPMENT: Remove pesticide, scale residues and other foreign matter from the chemical tank and entire injection system. Flush with clean water.

APPLICATION INSTRUCTIONS: Fill tank with one half to three quarters the desired amount of water. Start hydraulic or mechanical agitation. Add the required amount of LEAF-GUARD® then the remaining volume of water. Set sprinkler to deliver 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the solution of LEAF-GUARD® into the irrigation water line so as to deliver the rate per acre. Inject the LEAF-GUARD® solution with a positive displacement pump into the main line before a right angle turn to ensure adequate mixing. For other questions about calibration, contact equipment manufacturers, State Extension Service specialists or other experts.

NOTE: For Microjet and Drip Irrigation Systems: After treatment with LEAF-GUARD® has been completed, avoid further irrigation of the treated area for 24 to 48 hours.

For Solid Set and Center Pivot Irrigation Systems: After treatment with LEAF-GUARD® has been completed, avoid further irrigation of the treated area until foliage is dry to prevent washing the chemical off the crop.

GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in mix tank during mixing and application to assure solution uniformity. The irrigation 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 backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back towards 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 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, which 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.

NAPA
Northwest Agricultural Products

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of chemigation water.

Allow sufficient time for pesticide to be flushed through all lines and nozzles before turning off irrigation water. A person knowledgeable in chemigation system and responsible for its operation shall shut down and adjust the system as needed.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.

GENERAL APPLICATION INSTRUCTIONS

LEAF-GUARD® may be applied by various application methods, coverage, spray to wetness, but avoid run-off.

MIXING INSTRUCTIONS

1. Fill the spray tank with 1/4 to 1/2 of the volume of water required before adding LEAF-GUARD®
2. Add LEAF-GUARD® slowly to the tank and agitate by mechanical or hydraulic means
3. Continue agitating as tank fills with water to the desired volume
4. Maintain agitation during application

COMPATIBILITY

LEAF-GUARD® is compatible with most products used in agriculture. However, individual crop sensitivity to these mixtures may vary. Mixtures of LEAF-GUARD® with some foliar fertilizers and copper products may not be compatible or may cause phytotoxicity to some plants. If these combinations or others have not been used previously, do not tank mix without first testing the compatibility of the tank mix. Do not apply tank mixture without first assessing its safety to the crop (phytotoxicity).

Due to LEAF-GUARD®'s acidic nature, the use of acidifying-type compatibility agents are not recommended. If spray adjuvants are used they must be tested before use to confirm compatibility with LEAF-GUARD®.

A jar test should be used to confirm compatibility with LEAF-GUARD® in a clean jar using the same water source that is normally used to fill spray tank, add the same proportions of each product and the appropriate quantity of water and mix thoroughly. Let stand for 3 minutes. If mixture remains in solution or can remixed readily the tank mix is compatible. The solution that resulted from the above compatibility test should be sprayed onto a few plants and inspected for visual effects of phytotoxicity (leaf burn) 3 to 7 days later.

AGRICULTURAL APPLICATIONS

APPLES, CRAB APPLES, LOQUATS, PEARS, ORIENTAL PEARS & QUINCE*

Use LEAF-GUARD® for effective control of black spot, root and collar rot and fire blight in apples, crab apples, loquats, pears, Oriental pears, and quinces.

Disease	Application Method	Rate	Application Program
Apple black spot or scab (Venturia inaequalis)	Foliar spray	1/2 gallon / acre in 25-250 gallons water /acre	First application at open cluster. Last application at fifth cover or fruit at 2" to 2 1/2" diameter. Total of 10 applications at 10 to 12 day intervals. When conditions are conducive to a black spot outbreak, apply LEAF-GUARD® immediately. Note: After 4 or 5 consecutive applications some yellowing of extension growth may be observed. If yellowing occurs use another fungicide until yellowing of leaves disappears.
Root and collar rot (Phytophthora cactorum) Fire Blight (Erwinia amylovora)	Foliar spray	Apply at 1 1/4 -2 1/2 quarts/acre with a maximum of 250 gallons water / acre	One to two month intervals between treatments. Under high disease pressure use higher application rate and shorter spray interval. Ensure thorough coverage.

*Not for use in California.

ASPARAGUS*

Use LEAF-GUARD® for effective control of crown rot & asparagus spear slime disease in asparagus.

Disease	Application Method	Rate	Application Program

Crown rot & Asparagus spear slime (Phytophthora spp)	Foliar	1 1/4 quarts/acre in 25 gallons water to 2 1/2 quarts/acre in 250 gallons water	Apply to ferns that have 2 to 3 inches of new growth. Do not apply to ferns that are starting to die down (senesce). Established plantings, start applications when conditions are favorable to disease (cool wet conditions). Ensure thorough coverage.
--	--------	---	--

*Not for use in California.

BERRIES*

Use LEAF-GUARD® for effective control of root rot in bush and cane berries such as, but not limited to, blueberries, blackberries, loganberries, and raspberries (red, black, hybrids/cultivars).

Disease	Application Method	Rate	Application Program
Root rot (Phytophthora spp)	Foliar spray	2 1/2 quarts in 185 gallons of water per acre. Ensure foliage is completely wet.	New plantings: start application when new growth is 2 to 3 inches long. Established plantings: start applications when cool, wet conditions occur which favor disease. West of Rocky Mountains: Autumn applications, apply when conditions favor disease, repeat in 4 weeks. Spring applications, first application after bud break and repeat in 4 weeks. East of Rocky Mountains: First application spring post bud break (2 to 3 inches new growth) and repeat at 50 to 60 day intervals. Do not exceed 4 applications per season. For blueberries-First application in spring at pink bud and then on a regular schedule of application at 2 to 3 week intervals.

*Not for use in California.

BRASSICAS

Use LEAF-GUARD® for effective control of downy mildew in brassicas such as, but not limited to, broccoli, Brussels sprouts, cabbage, cauliflower, cavalo broccoli, collards, Chinese cabbage, Chinese mustard cabbage, kale, kohlrabi, mizuna, mustard greens, mustard spinach and rape greens.

Disease	Application Method	Rate	Application Program
Downy mildew (Peronospora parasitica)	Foliar spray	1 1/4 quarts/acre in 25 gallons water to 2 1/2 quarts/acre in 250 gallons Water California: 1 1/4 quarts per acre in 100 gallons of water to 2 1/2 quarts per acre in 185 gallons of water.	1 to 3 week intervals between applications when conditions favor disease development (cool, moist weather). Use higher rates and shorter intervals when disease pressure increases.



CUCURBITS

Use LEAF-GUARD® for effective control of sudden wilt, gummy stem blight, and downy mildew diseases in cucurbits grown in field situations such as, but not limited to, cucumber, Chinese waxgourd, citron melon, gherkin rock melon, honeydew melon, pumpkin, zucchini, watermelon and squash (summer and winter), Momordica spp balsam apple, balsam pear, bitter melon, and Chinese cucumber.

Disease	Application Method	Rate	Application Program
Sudden wilt - Root and fruit rot (Phytophthora spp)	Foliar spray	Apply 1¼ quarts per acre in 40 gallons of water	Entire spray coverage of plant is required. Do not exceed a total of 6 applications per season.
Gummy stem blight (Mycosphaerella melonis)			Apply when disease is evident. Continue applications at 21 day intervals until cure is apparent. Do not exceed a total of 6 applications per season.
Downy mildew (Pseudoperona - spora cubensis)			Apply within 7 to 10 days of infection. Repeat as necessary. Do not exceed a total of 6 applications per season.

CUCURBITS, TANK MIXTURES*

For the effective control of downy mildew diseases, tank mix LEAF-GUARD® with a mancozeb-containing fungicide and apply to cucurbits.

Product	Disease	Rate	Application Program
LEAF-GUARD® + mancozeb-containing fungicide	Downy mildew	Light to medium foliage cover: Apply 1¼-2 quarts of product per acre. Heavy foliage cover: Apply 3 quarts of product/acre + Label rate of mancozeb	Apply as a foliar spray the indicated quantity and dilution rates with water of both products. For best results apply LEAF-GUARD® as a tank mix with protectant fungicides such as Mancozeb, copper oxychloride, etc., to ensure both pre- and post-infection activity.

*Not for use in California.

*Registered trademark of Rohm & Haas

GRAPES

Use LEAF-GUARD® for effective control of downy mildew diseases in grapes.

Disease	Application Method	Rate	Application Program
Downy mildew (Plasmopara viticola)	Foliar spray	Early season small canopy, 1¼ quarts per acre in 100 gallons water Late season/ large canopy, 2 quarts per acre in 150 gallons water to 2½ quarts per acre in 200 gallons water.	It is essential that the rate of LEAF-GUARD® be adjusted to the vine-row volume, i.e., the volume of vine foliage per acre. Spray timing is critical. Apply LEAF-GUARD® at times of high disease risk, especially between the time that conditions are conducive to downy mildew infection and the appearance of oil spots. Ensure spray coverage is adequate and that the appropriate rate of LEAF-GUARD® is applied to match vine growth, particularly from mid-season onwards, and especially where grapes are grown on root stock.

GRAPES, TANK MIXTURES*

For the effective control of downy mildew diseases LEAF-GUARD® should be tank mixed with Dithane® fungicide and applied to grapes grown in commercial vineyards.

Product	Disease	Rate	Application Program

LEAF-GUARD® + DITHANE®**	Downy mildew	Early season small canopy, 1/3 gallon/acre in 100 gallons water Late season/large canopy, ½ gallon/acre in 150 gallons water to 2/3 gallon/acre in 200 gallons water + Rohm & Haas recommended rate of DITHANE®**	Apply as a foliar spray the recommended quantity and dilution rates with water of both products. For best results, apply LEAF-GUARD® as a tank mix with protectant fungicides such as Mancozeb/Dithane®** to ensure both pre and post-infection activity
--------------------------	--------------	--	---

*Not for use in California.

**Registered trade mark of Rohm & Haas.

HOPS*

LEAF-GUARD® may be used for effective control of downy mildew in hops grown in commercial plantations.

Disease	Application Method	Rate	Application Program
Downy mildew	Foliar spray by ground equipment only	1 1/4 quarts in 100 gallons water/acre	When conditions favor disease, applications should occur when A. Shoots are 1/2 to 1 foot long B. Post-training when vines are 6 feet high C. 21 days post-application (B) D. During bloom

*Not for use in California.

LEAFY VEGETABLES*

LEAF-GUARD® may be used for effective control of downy mildew in leafy vegetables such as amaranth, arugula, cardoon, celery, chervil, corn salad, endive, fennel, parsley, radicchio, rhubarb, spinach, and Swiss chard grown in commercial plantations. Excludes Brassica vegetables.

Disease	Application Method	Rate	Application Program
Downy mildew (Bremia lactucae)	Foliar Spray	1/2 gallon/acre in 100 gallons water	Ensure spray coverage is adequate to wet the whole plant. During warm, wet conditions, application at 7 to 10 day intervals may be required.

*Not for use in California.

LETTUCE

LEAF-GUARD® may be used for effective control of downy mildew diseases in lettuce grown in commercial plantations.

Disease	Application Method	Rate	Application Program
Downy mildew (Bremia lactucae)	Foliar Spray	1/2 gallon/acre in 200 gallons water	Ensure spray coverage is adequate to wet the whole plant. During warm, wet conditions, application at 7 to 10 day intervals may be required.

ONIONS

LEAF-GUARD® may be used for effective control of downy mildew disease in onions, garlic and shallots grown in commercial plantations. Use as a preventative control program for best results.

Disease	Application Method	Rate	Application Program
Downy mildew (Peronospora destructor)	Foliar spray	2 quarts/acre in 100 gallons water/acre	As a regular preventative control program or when disease first appears

ONIONS, TANK MIXTURES*

For the effective control of downy mildew diseases LEAF-GUARD® should be tank mixed with Dithane® fungicide and applied to onions, garlic and shallots in commercial plantations.

Product	Disease	Rate	Application Program



LEAF-GUARD® + DITHANE®**	Downy mildew	2 quarts/acre in 100 gallons water/acre + Rohm & Haas Recommended rate of DITHANE®**	Apply as a foliar spray the recommended quantity and dilution rates with water of both products. For best results apply LEAF-GUARD® as a tank mix with protectant fungicides such as Mancozeb/Dithane®**, copper oxychloride, etc., to ensure both pre- and post-infection activity.
--------------------------	--------------	--	--

*Not for use in California.

**Registered trade mark of Rohm & Haas.

To the extent permitted by law, all conditions and warranties and statutory or other rights of action which buyer or any other user may have against Northwest Agricultural Products are hereby excluded. Northwest Agricultural Products hereby gives notice to buyer and other users that it will not accept responsibility for any indirect or consequential loss arising from reliance on product information provided by Northwest Agricultural Products or on its behalf unless it is established that such information or advice was provided negligently and that the product has been used strictly as directed. Northwest Agricultural Products liability shall in all circumstances be limited to replacement of product or a refund of the purchase price thereof.

Manufactured by:
Northwest Agricultural Products, Inc.
P.O. Box 3453
Pasco, WA 99302

STONE FRUIT*

LEAF-GUARD® may be used for effective control of root, collar rot and almond pruning wound canker disease in stone fruit grown in commercial plantations.

Disease	Application Method	Rate	Application Program
Root and collar rot (Phytophthora spp)	Foliar spray	2 1/2 quarts/acre in 250 gallons water	Three treatments are required 1. Spring 2. Mid summer 3. Fall, post-harvest
Almond pruning- wound cankers (Phytophthora syringae)	Paint or spray	1 1/4 - 2 1/2 quarts in 100 gallons water	Apply to pruning wound and surrounding area, ensure area is thoroughly wet. In high disease situations use higher rate

*Not for use in California.

STRAWBERRIES*

LEAF-GUARD® may be used for effective control of leather rot, red stele and Phytophthora disease in strawberries grown in commercial plantations.

Disease	Application Method	Rate	Application Program
Red stele (Phytophthora fragariae)	Pre-planting dip	1 1/4 quarts in 100 gallons water	Dip planting material in this solution for 30 minutes, then plant within one day. Program may be used for annual and perennial varieties
Leather rot (Phytophthora cactorum)	Foliar Spray	1 1/4 quarts/acre in 90 gallons water to 2 1/2 quarts/acre in 200 gallons water	Annual crops, first treatment 14 to 21 days post planting, repeat at 1 – 2 month intervals when disease is evident. Perennial crops, first treatment during spring growth flush, repeat at 1 - 2 month intervals when disease is evident. For susceptible varieties use higher rates and shorter spray intervals
	Foliar Spray	1 1/4 quarts/acre in 90 gallons water to 2 1/2 quarts/acre in 200 gallons water	Apply at 10% bloom and early fruit set, then at one to two week intervals as required for disease control. In high disease situations use higher rates and shorter spray intervals

*Not for use in California.

STORAGE AND DISPOSAL

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

STORAGE: Keep this product in containers stored upright and secured with the original closure. Do not store this product near any heat source. Do not store near strong oxidants. If transfer to another container becomes necessary, ensure that the container is clearly labeled, the container is a type suitable for the product, and is clean and free of other materials.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or hazardous waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Do not reuse empty container. Triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, keep out of smoke.

NOTICE TO BUYER:

