### Vabro™ Flowable Agricultural Fungicide

GROUP	M5	FUNGICIDE

ACTIVE INGREDIENT
Chlorothalonil (tetrachloroisophthalonitrile) 54.0%
OTHER INGREDIENTS 46.0%
TOTAL 100.0%

Contains 6 pounds chlorothalonil per gallon.

## WARNING/AVISO

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

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

Causes substantial but temporary eye injury. May be fatal if inhaled. Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Harmful if swallowed. Do not breathe vapor or spray mist.

	FIRST AID						
If inhaled • Move person to fresh air.							
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.						
	• Call a poison control center or doctor for further treatment advice.						
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 eye.						
	Call a poison control center or doctor for treatment advice.						
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 the poison control center or doctor.						
Do not give anything by mouth to an unconscious person.							
f on skin or  • Take off contaminated clothing.							
clothing							
	Call a poison control center or doctor for treatment advice.						
Have the product co	ontainer or label with you when calling a poison control center or doctor, or going for treatment. For						
additional informati	ion in case of emergency, call toll free 1-877-424-7452.						
	SEE INSIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS						

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#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### **WPS** Uses

Mixers, loaders, applicators and all other handlers must wear: - Long-sleeved shirt and long pants, - Chemical-resistant gloves made of any waterproof material – Category A (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC) or viton)- Shoes plus socks,- Protective eyewear, and

- A dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

#### **Non-WPS Uses**

Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) – in general, only agricultural plant uses are covered – must wear:

- Long-sleeved shirt and long pants,
- Chemical-resistant gloves made of any waterproof material Category A (e.g., barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride (PVC) or viton),
- Shoes plus socks, and
- 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.

#### **Engineering Control Statements**

When handlers use closed systems, enclosed cabs, or aircraft 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 eating, drinking, chewing gum, using tobacco or using the toilet. 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**

This pesticide is toxic to aquatic invertebrates and wildlife. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it my also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface water.

#### **DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply when wind speed favors drift beyond the area intended for treatment.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 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 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, chemical-resistant gloves made of any waterproof material, shoes plus socks and protective eyewear.

Special Eye Irritation Provisions: This product is a severe eye irritant. Although the restricted entry interval expires after 12 hours, for the next 6.5 days entry is permitted only when the following safety measures are provided:

- (1) At least one container designed specifically for flushing eyes must be available in operating condition at the WPS required decontamination site intended for workers entering the treated area.
- (2) Workers must be informed in a manner they can understand:
- that residues in the treated area may be highly irritating to their eyes,
- that they should take precautions, such as refraining from rubbing their eyes, to keep the residues out of their eyes,
- that if they do get residues in their eyes, they should immediately flush their eyes using the eyeflush container that is located at the decontamination site or using other readily available clean water, and
- how to operate the eyeflush container.

#### 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.

DO NOT enter or allow others to enter area until sprays have dried.

#### STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL

**<u>Pesticide Storage</u>**: Store in a cool place. Protect from excessive heat.

<u>Pesticide Disposal</u>: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray, 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 the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Disposal:** Use label language appropriate for container size and type.

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying.

Nonrefillable container equal to or less than 5 gallons. 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 ¼ 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 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, stay out of smoke.

Nonrefillable container greater than 5 gallons. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container \(^{1}\)4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then 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, stay out of smoke.

**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning

before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then 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, stay out of smoke.

### FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300

#### GENERAL INSTRUCTIONS AND INFORMATION

#### **Application and Calibration Techniques for Sprinkler Irrigation**

Apply this product only through the following types of 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 nonuniform distribution of treated water. If you have questions about calibration, you should contact State Experiment Station specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of 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.

- A. Center Pivot, Traveler, Big Gun, Motorized Lateral Move, End Tow, and Side (Wheel) Roll Irrigation Equipment: Operate system and injection equipment at normal pressures recommended by the manufacturer of injection equipment used. Fill tank of injection equipment with water. Operate system for one complete circle for center pivot or one complete run for the other recommended equipment, measuring time required, amount of water injected, and acreage contained in circle or run. Mix recommended amount of Vabra for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run, but continue to operate irrigation system until Vabra has been cleared from last sprinkler head. Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur.
- B. Solid Set and Hand Move Irrigation Equipment: Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of Vabra for acreage to be covered into quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. Provide constant mechanical agitation in the mix tank to insure that Vabra will remain in suspension during the injection cycle. Vabra can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until the product is cleared from last sprinkler head.

#### **Safety Devices**

(1) The systems designated above 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. (2) All pesticide injection pipelines must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. (3) 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. (4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. (5) 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. (6) 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. (7) Do not apply when wind speed favors drift beyond the area intended for treatment.

#### **Systems Connected to Public Water Sources**

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

For additional instructions on safety precautions, refer to statements (2), (3), (4), (6), and (7) in the section on SAFETY DEVICES.

#### **Spray Drift Labeling**

Avoiding spray drift: Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the Aerial Drift Aerial Drift Reduction Advisory Information [This section is advisory in nature and does not supersede mandatory label requirements.]

**Information on Droplet Size**: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

**Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

**Nozzle Type** - Use nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**Boom Length**: For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

**Application Height**: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment**: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

**Wind:** Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**Temperature and Humidity:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions:** Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas**: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

#### **General Information**

Vabra is an excellent fungicide when used according to label directions for control of a broad spectrum of plant diseases. Vabra can be used effectively in dilute or concentrate sprays. Thorough, uniform coverage is essential for disease control. Do not combine Vabra in the spray tank with pesticides, surfactants or fertilizers, unless prior use has shown the combination physically compatible, effective and noninjurious to your conditions of use.

Slowly invert container several times to assure uniform mixture. The required amount of Vabra should be added slowly into the spray tank during filling. With concentrate sprays, pre-mix the required amount of Vabra in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during spray operations.

Dosage rates on this label indicate pints of Vabra per acre unless otherwise stated. Under conditions favoring disease development, the high rate specified and shortest application interval should be used. Applications should be made in sufficient water to obtain adequate coverage of foliage. Gallonage to be used will vary with crop and amount of plant growth. Spray volume usually will range from 20 to 150 gallons (approximately 80 to 600 liters) per acre for dilute sprays and 5 to 10 gallons (approximately 20 to 40 liters) per acre for concentrate ground sprays and aircraft applications. Both ground and aircraft methods of application are recommended unless specific directions for ground application only are given for a crop. Application through sprinkler irrigation systems is not recommended unless specific directions are given for a crop. See application and calibration instructions above.

This product can be mixed with Folicur 3.6 F and Tilt for use on peanuts, Benomyl 50WP for use on indeterminate (northern) soybeans, and EPA-registered copper products for use on tomatoes in accordance with the more restrictive label limitations and precautions. No label dosage rates should be exceeded. This product can be mixed with other pesticides unless specifically prohibited by product labeling.

#### **General Precautions and Restrictions**

This product must not be applied within 150 feet (for aerial and air-blast applications) or 25 feet (for ground applications) of marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Do not combine Vabra with Dipel® 4L, Latron® AG-98, or Latron B-1956 as phytotoxicity may result from the combination when applied to some crops on this label.

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park athletic fields, athletic fields located on or next to schools (i.e., elementary, middle and high schools), campgrounds, churches, and theme parks.

Do not use on greenhouse grown food crops.

#### **APPLICATION RATES**

Dosage rates on this label indicate pints of Vabra per acre, unless otherwise stated. Under conditions favoring disease development, the high rate specified and the shortest application interval should be used.

For each listed crop, the maximum total amount chlorothalonil active ingredient (lbs. a.i./A) which may be applied per acre of that crop (or crop group) during each growing season is given in bold print beneath the crop name. For each crop use situation listed below, the listed maximum individual and seasonal application rates must not be exceeded and the listed minimum retreatment intervals must not be decreased.

CROP	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS
Asparagus	Rust (Puccinia asparagi)  Purple Spot (Pleospora herbarum) Cercospora blight (C. asparagi)	2 to 4 (1.5 to 3.0)	Use water volumes of 25-50 gallons per acre Begin applications following final harvest o spears. Repeat applications at 14-28 day intervals (the minimum retreatment interval i 14 days), depending on disease pressure. Use the higher rate and shorter interval if disease severity begins to increase during the season o weather conditions are conducive for severe epidemics.  Apply by ground.
	Do not apply more than 12 pint 0 days in CA and AZ) of the harv		er acre during each growing season. Do not owing season.
Bean (Snap)	Rust (Uromyces appendiculatus)	13/8 to 3 (1.0 to 2.25)	Use in sufficient water to obtain adequate coverage. Begin applications during early bloom stage or when disease first threatens and
	Botrytis blight (gray mold) (B. cinerea)	3 (2.25)	repeat (the minimum retreatment interval is days).
Specific Use Restrictions within 7 days of harvest.	Do not apply more than 12 pints	s Vabra (9.0 lbs. a.i.) p	er acre during each growing season. Do not apply
Beans (Dry) (except soybeans) bean, adzuki bean, broad bean, dry bean, lablab bean, navy bean, kidney bean, lima bean, moth bean, mung bean, pink bean, pinto bean, tepary bean, urd bean, yardlong catjang chickpea (garbanzo) cowpea lupin, grain lupin bean, rice bean, runner bean, jackbean pea, blackeyed pea, southern	Rust (Uromyces appendiculatus)  Anthracnose (Colletotrichum lindemuthianum)  Downy mildew (Phytophthora nicotianae)  Cercospora leaf blotch (C. cruenta)  Ascochyta blight (A. phaseolorum)	13/8 to 2 (1.0 to 1.5)	Use in sufficient water to obtain adequate coverage. Begin applications at first onset of disease, which may occur as early as 2 to 4 weeks before flowering. Repeat applications a 7 to 10 day intervals (the minimum retreatment interval is 7 days). For use only on beans to be harvested dry with pods removed.  Apply by ground, air or chemigation.

CROP	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS	
<b>Specific Use Restrictions:</b> Do not apply more than 8 pints Vabra (6 lbs. a.i.) per acre during each growing season. Do not apply within 14 days before harvest.				
Blueberries	Suppression: Anthracnose (ripe rot) (C. gloeosporoides) Mummy Berry (M. vacciniicorymbosi)	3 to 4 (2.25 to 3.0)	Vabra should be integrated into an overall disease management strategy which includes alternation with a fungicide with a different mode of action. Diseases may only be suppressed and russetting may occur under heavy disease pressure or unfavorable environmental conditions.	
			Apply in sufficient water to obtain adequate coverage, normally 20-100 gallons per acre. Begin applications at budbreak (green tip) and repeat at 10-day intervals through early bloom (the minimum retreatment interval is 10 days). Under heavy disease pressure, use the higher rate.	
			Apply by ground or air.	
	Septoria leaf spot (Septoria albopunctata) Rust (Pucciniastrum vaccinii)	3 to 4 (2.25 to 3.0)	Foliar Use After Harvest (after all berries are harvested): To maintain healthy leaves for the following season, apply in sufficient water to obtain adequate coverage (normally 20-100 gallons per acre). Repeat at 10-14 day intervals (the minimum retreatment interval is 10 days).	
			Apply by ground or air.	
Specific Use Restrictions: Do after full bloom (except for folio			r acre during each growing season. Do not apply	
Cabbage Chinese cabbage (tightheaded varieties only), Cauliflower Broccoli Chinese Broccoli Brussels Sprouts	Alternaria leaf spot, (Alternaria spp.)  Downy mildew (Peronospora parasitica)	1½ (1.125)	Use in sufficient water to obtain adequate coverage. Begin applications after transplants are set in field, or shortly after emergence of field-seeded crop, or when conditions favor disease development. Repeat at 7 to 10 day intervals (the minimum retreatment interval is 7 days).	
			Apply by ground, air or chemigation.	
	Ring spot (California only)	2 (1.5)	For field-seeded Brussels sprouts, begin applications at time of early sprout development or when conditions favor disease development. Repeat at 7 to 10 day intervals (the minimum retreatment interval is 7 days) to maintain control.	
<b>Specific Use Restrictions:</b> Do within 7 days of harvest.	not apply more than 16 pint	s Vabra (12 lbs. a.i.) per	r acre during each growing season. Do not apply	
Carrot	Cercospora leaf spot (C. carotae) Alternaria leaf blight (A. dauci)	1½ to 2 (1.125 to 1.5)	Use in sufficient water to obtain adequate coverage. Start applications when disease threatens and repeat at 7 to 10 day intervals (the minimum retreatment interval is 7 days) to maintain control.	
			Apply by ground, air or chemigation.	

CROP	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS
Specific Use Restrictions: I be applied the day of harvest.		ts Vabra (15 lbs. a.i.) <sub>1</sub>	per acre during each growing season. Vabra -may
Celery	Early blight (Cercospora apii) Late blight (Septoria apicola) Basal stalk rot (Rhizoctonia solani)	2 to 3 (1.5 to 2.25)	Use in sufficient water to obtain adequate coverage. Start applications when transplants are set in the field and repeat at a 7-day interval as needed to maintain control (the minimum retreatment interval is 7 days).  Apply by ground, air or chemigation.
	Suppression (7-day schedule): Pink rot (Sclerotinia sclerotiorum)	3 (2.25)	
	Early blight (Cercospora apii) Late blight (Septoria apicola)	1½ to 2 (1.125 to 1.5) per 100 gals.	For celery seedbeds, apply in a spray volume of 125 gallons per acre twice weekly or as needed to maintain control. Start applications shortly after crop emergence. Use the higher rate under severe disease conditions.
<b>Specific Use Restrictions:</b> If within 7 days of harvest.	Oo not apply more than 24 pint	s Vabra (18 lbs. a.i.) p	er acre during each growing season. Do not apply
Corn (Sweet) Corn (grown for seed)	Helminthosporium leaf blights Rust ( <i>Puccinia</i> spp.)	<sup>3</sup> / <sub>4</sub> to 2 (0.6 to 1.5)	Use in sufficient water to obtain adequate coverage. Begin applications when conditions favor disease development and repeat at a 7 day interval as required to maintain control (the minimum retreatment interval is 7 days). Under severe disease conditions, use 1½ to 2 pints Vabra per acre.
Specific Use Restrictions: I	Oo not apply more than 12 pin	ts Vabra (9 lbs. a.i.) pe	Apply by ground, air or chemigation.  er acre during each growing season. Do not apply
within 14 days of harvest. Do treated corn or use as livestoo		processed. Do not allow	w livestock to graze in treated fields. Do not ensile
Cranberry	Fruit rots  Lophodermium leaf/twig blight (L. hypophyllum)	4 to 6½ (3.0 to 4.9)	Apply at early bloom and repeat at 10 to 14 day intervals (the minimum retreatment interval is 10 days). Under severe disease conditions, use the 6½ pint/acre rate on a 10 day schedule.
			Apply by ground, air or chemigation. When applying by chemigation, use 300 gallons of water per acre through solid set systems only.
	Upright Dieback (Phomopsis vaccinii)	4 to 6½ (3.0 to 4.9)	Apply in sufficient water to obtain coverage of uprights and runners. Make the first application before bloom, at the time shoots begin growth in the spring. Make additional applications at 10-14 day intervals.
			Apply by ground, air or chemigation. When applying by chemigation, use 300 gallons of water per acre through solid set systems only.

**Specific Use Restrictions:** Do not apply more than 20 pints Vabra (15 lbs. a.i.) per acre during each growing season. Do not apply within 50 days of harvest. Do not apply to beds when flooded or allow release of irrigation water from beds for at least 3 days following application.

СКОР	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS
Cucurbits: Cucumber, Cantaloupe, Muskmelon, Honeydew melon, Watermelon, Squash, Pumpkin	Anthracnose (Colletotrichum spp.) Downy mildew (Pseudoperonospora cubensis) Target spot (Corynespora cassiicola)	1½ to 2 (1.125 to 1.5)	Use in sufficient water to obtain adequate coverage. Begin applications when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7 day intervals (the minimum retreatment interval is 7 days).  Note: Spraying mature watermelons may result in sunburn of the upper surface of the
	Cercospora leaf spot (C. citrullina) Gummy stem blight/vine decline (Didymella bryoniae) Alternaria leaf blight (A. cucumerina) Alternaria leaf spot (A. alternata) Scab (Cladosporium cucumerinum) Powdery mildew (Spaerotheca only)	2 to 3 (1.5 to 2.25)	fruit. Do not apply Vabra to watermelons when any of the following conditions are present:  1. Intense heat and sunlight 2. Drought conditions 3. Poor vine canopy 4. Other crop and environmental conditions which may be conducive to increased natural sunburn.  Do not combine Vabra with anything except water for application to watermelons unless your prior use has shown the combination to be non-injurious to watermelons under your conditions of use.  Apply by ground, air or chemigation.
be applied the day of harvest.  Grasses Grown for Seed	Stem rust Leaf rust Stripe rust Septoria leaf spot Glume blotch Bipolaris and Drechslera leaf spots Selenophoma (eyespot)	1 to 1½ (0.75 to 1.125)  1 to 2 (0.75 to 1.5)	Use in sufficient water to obtain adequate coverage. Begin applications during stem elongation when conditions favor disease development. Re-apply at flag (top) leaf emergence and repeat applications at 14 day intervals (the minimum retreatment interval is 14 days).  Apply by ground, air or chemigation.
	ot allow livestock to graze	s Vabra (4.5 lbs. a.i.) per	acre during each growing season. Do not apply hay produced before harvest. Feeding of treated
Mango	Anthracnose (Colletotrichum spp.)	2 to 3½ (1.5 to 2.6)	Use a water volume of 20 to 300 gallons per acre. Begin applications at early bloom and repeat on a 7-14 day interval until early fruit development. Begin the season with the 2 pint rate on a 14-day interval (the minimum retreatment interval is 7 days). If disease pressure is severe, use the higher rate and shorter interval.  Apply by ground or air.
Specific Use Restrictions: Do within 21 days of harvest.	not apply more than 32 pint	ts Vabra (24 lbs. a.i.) per	r acre during each growing season. Do not apply

CROP	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS
Mint (Indiana, Michigan and Wisconsin only)	Rust (Puccinia menthae) Septoria leaf spot (S. menthae)	13/ <sub>8</sub> (1.0)	Use in sufficient water to obtain adequate coverage, normally 20 to 150 gallons per acre for dilute sprays and 5 to 10 gallons per acre for concentrate ground and aircraft applications. Begin applications when emerging plants are 4-8 inches high. Repeat applications at 7 to 10 day intervals to maintain control (the minimum retreatment interval is 7 days).
	Do not apply more than 4 pint o not feed fresh or extracted m		acre during each growing season. Do not apply ds to livestock.
Onion (dry bulb) and Garlic	Botrytis leaf blight (Botrytis spp.)  Purple blotch (Alternaria porri)  Suppression: Botrytis neck rot  Downy mildew (Peronospora destructor)	1 to 3 (0.75 to 2.25)	Apply in sufficient water to obtain adequate thorough coverage of tops. Vabra is recommended for use with disease monitoring systems which adjust fungicide rates and frequency of application according to disease hazard. Apply as follows:    Low
<b>Specific Use Restrictions:</b> I within 7 days of harvest.	Do not apply more than 20 pine	ts Vabra (15 lbs. a.i.) pe	r acre during each growing season. Do not apply
Onion (green bunching) Leek, Shallots, Onion and Garlic (grown for seed)	Botrytis leaf blight (Botrytis spp.) Purple blotch (Alternaria porri) Suppression: Downy mildew (Peronospora destructor)	1½ to 3 (1.125 to 2.25)	Use in sufficient water to obtain thorough coverage of tops. Begin applications prior to favorable infection periods, and repeat at 7 to 10 day intervals for as long as conditions favor disease (the minimum retreatment interval is 7 days). Use the high rate and a 7 day schedule of applications when heavy dew or rain persist. Apply by ground, air or chemigation.
			er acre during each growing season. Do not apply bunching onions, leeks or shallots.
Papaya	Alternaria fruit spot (A. alternata) Anthracnose (Colletotrichum spp.)	1½ to 3 (1.125 to 2.25)	Apply with ground equipment only, in sufficient water to obtain adequate coverage of fruit and leaves. Begin treatment when conditions favor development of disease and continue treatments at 14 day intervals until

CROP	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS
	Stem end rot (A. alternata, Colletotrichum spp.)		weather conditions no longer favor disease development (the minimum retreatment interval is 14 days.).
<b>Specific Use Restrictions:</b> Do be applied the day of harvest.	o not apply more than 9 pints	s Vabra (6.75 lbs. a.i.) <sub>I</sub>	per acre during each growing season. Vabra may
Parsnip	Alternaria leaf spot (Alternaria spp.)  Downy mildew (Plasmopara crustosa)  Anthracnose (Colletotrichum spp.)  Botrytis blight (gray mold) (B. cinerea)  Bottom rot (Rhizoctonia)	1½ to 2 (1.125 to 1.5)	Apply in sufficient water to obtain adequate coverage. Make the first application at the first sign of disease or when conditions are favorable for infection. Continue applications on a 7 to 10 day schedule (the minimum retreatment interval is 7 days).
<b>Specific Use Restrictions:</b> D within 10 days of harvest.	o not apply more than 8 pint	s Vabra (6 lbs. a.i.) per	acre during each growing season. Do not apply
Passion Fruit (Hawaii only)  Specific Use Restrictions: Do	Alternaria fruit and leaf spot (Alternaria spp.) Anthracnose (Colletotrichum spp.) Cercospora fruit spot	2 (1.5) s Vabra (7.5 lbs. a.i.) pe	Apply with ground equipment in sufficient water to obtain adequate coverage of fruit and leaves. Begin applications during late bloom and repeat at 14 day intervals until weather conditions no longer favor disease development (the minimum retreatment interval is 14 days).
within 7 days of harvest.	1	, , , , , , , , , , , , , , , , , , ,	The desired during each growing season. Bo not apply
Peanut	Early leaf spot (Cercospora arachidicola) Late leaf spot (Cercosporidium personatum) Pepper spot (Leptosphaerulina crassiasca) Rust (Puccinia arachidis) Web blotch (Phoma arachidicola)	1 to 1½ (0.75 to 1.125)  1½ (1.125)	Apply in sufficient water for coverage when leaf wetness first occurs or 30 to 40 days after planting. Repeat at 14 day intervals (the minimum retreatment interval is 14 days). When conditions favor late leaf spot or when rust or web blotch occur, apply 1½ pints Vabra per acre at 14 day intervals for the remainder of the season.  Apply by ground, air, or chemigation. If applying by chemigation, us 1½ pints Vabra per acre. It is recommended to alternate chemigation applications with ground or aerial applications.

CROP	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS	
<b>Specific Use Restrictions:</b> Do not apply more than 12 pints Vabra (9 lbs. a.i.) per acre during each growing season. Do not within 14 days of harvest. Do not allow livestock to graze in treated areas. Do not feed hay or threshings from treated fielivestock.				
Specific Use Restrictions: Do	Late blight (Phytophthora infestans) Early blight (Alternaria solani) Botrytis vine rot (B. cinerea) Black dot (Colletotrichum coccodes)	3/4 (0.6) -then- 1 to 11/2 (0.75 to 1.125) ts of Vabra (11.25 lbs. a	Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 5 to 10 day intervals (the minimum retreatment interval is 5 days).  Begin applying the higher label rates at 5 to 10 day intervals when any one of the following events occurs:  Vines close within the row;  Late blight forecasting measures 18 disease severity values (DSV);  The crop reaches 300 P-days.  Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe.  Apply by ground, air, or chemigation. Do not exceed a 10 day interval between applications when using chemigation.	
apply within 7 days of harvest.  Soybean	Anthracnose (Colletotrichum truncatum) Diaporthe pod and stem rot (D. phaseolorum) Frogeye leaf spot (Cercospora sojina) Purple seed stain (C. kikuchii) Cercospora leaf blight (C. kikuchii), Septoria brown spot (S. glycines) Suppression: Rust (Phakopsora pachyrhizi)	1½ to 2¼ (1.125 to 1.7)  1 to 2 (0.75 to 1.5)	Apply in sufficient water to obtain complete coverage, using at least five gallons water per acre for aerial application. Use the three application program in areas having a history of moderate to severe disease intensity. The minimum retreatment interval is 14 days.  Apply by ground, air, or chemigation.  Two application program – For determinate varieties, make the first application at R3 stage (early pod set) and the second application at R5 (seed formation). For indeterminate varieties, make the first application when largest pods are 1-1¼ inches in length. Make the second application 14 days later.  Three application program: For determinate varieties, make the first application at the beginning of flowering (R1), the second at early pod set (R3), and the third at beginning of seed formation (R5). For indeterminate varieties, make the first application one week after first flowering and continue applications at 14 day intervals.	

CROP	DISEASES (Pathogen)	PTS. PRODUCT/ A (lbs. a.i./A)	APPLICATION DIRECTIONS	
	Stem canker (Diaporthe phaseolorum)	1 (0.75)	Apply in 10 to 20 gallons of water per acre, as a band treatment directing spray to provide coverage of entire plant. Make the first application at time of emergence of the second trifoliate leaves (V2). If conditions favor stem canker disease, make a second and a third application. Make all applications at 14 day intervals.	
Specific Use Restrictions: Do not apply more than 6 pints Vabra (4.5 lbs. a.i.) per acre during each growing season. Do not apply				

**Specific Use Restrictions:** Do not apply more than 6 pints Vabra (4.5 lbs. a.i.) per acre during each growing season. Do not apply within 6 weeks of harvest. Do not feed hay or threshings from treated fields to livestock.

Tomato	FOLIAGE: Early blight (Alternaria solani) Late blight (Phytophthora infestans) Gray leaf spot (Stemphyllium botryosum) Gray leaf mold (Fluvia fluva; Cladosporium) Septoria leaf spot (S. lycopersici) Target spot	13/8 to 2 (1.0 to 1.5)	Apply in sufficient water to obtain adequate coverage. Begin applications when dew or rain occur and disease threatens. Apply on a 7-10 day interval for foliage diseases. For fruit diseases, begin at fruit set and apply on a 7-14 day interval. Use the highest rate and shortest interval specified when disease conditions are severe. The minimum retreatment interval is 7 days.  Apply by ground, air, or chemigation.
	(Corynespora cassiicola)  FRUIT: Anthracnose (Colletotrichum spp.)	2 to 23/4 (1.5 to 2.1)	
	Alternaria fruit rot (black mold) (A. alternata) Botrytis gray mold (B. cinerea) Late blight fruit rot		
	(P. infestans)  Rhizoctonia fruit rot (R. solani)		

**Specific Use Restrictions:** Do not apply more than 20 pints Vabra (15 lbs. a.i.) per acre during each growing season. Vabra may be applied the day of harvest.

#### **Tree and Orchard Crops**

Apply Vabra in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. For fruit and nut bearing crops, the maximum volume is 300 gallons per acre unless indicated otherwise in the specific use directions. For conifers, the maximum volume is 100 gallons per acre.

Application with ground equipment is preferable to aerial application because ground applications generally give better coverage of the tree canopy. If application with ground equipment is not feasible, Vabra may be applied with aircraft using at

least 20 gallons of spray per acre The minimum volume for application by aircraft to forest stands and Christmas trees is 10 gallons per acre.

When concentrate sprays are used or when treating non-bearing or immature trees, the lower rate of Vabra listed may be used. Do not allow livestock to graze in treated areas.

			DUCT PER a.i. per)	
CROP	DISEASES (Pathogen)	ACRE	100 GAL.*	APPLICATION DIRECTIONS
Almonds	Blossom blight/brown rot (Monilinia spp.) Shot hole (Wilsonomyces carpophilus) Scab	4 (3.0)	1.33 (1.0)	Use water volumes of 20-300 gallons per acre. For blossom blight, begin application at popcorn (pink bud) and follow with an application at full bloom. If weather is still conducive for disease development, another application may be made at petal fall.
	(Venturia carpophila)			For control of shot hole, make an application in the autumn at leaf fall. In the spring, make the first application at budbreak, followed by an application at shuck split to control nut infections and to control scab.
				Apply by ground or air.
	e <b>Restrictions:</b> Do not apply not split). Do not apply within 15			s. a.i.) per acre during each growing season (leaf fall
Filberts (Hazel- nuts)	Eastern filbert blight (Anisogramma anomala)	4 (3.0)	1.33 (1.0)	Use a water volume of 20 to 300 gallons per acre. Begin applications at the onset of disease or when weather conditions favor disease development. Make applications on a 14-28 day schedule, using the shorter interval under heavy disease pressure (the minimum retreatment interval is 14 days.)
within 120 d		ough irrigation. D		) per acre during each growing season. Do not apply oils, other pesticides, surfactants or fertilizers. Do not
Peach Nectarine Apricot Cherry Plum Prune	Leaf curl (Taphrina deformans) Shot hole (Wilsonomyces carpophilus)	31/8 to 41/8 (2.3 to 3.1)	1 to 13/8 (0.75 to 1.0)	For best control of both diseases apply at leaf fall in late autumn, using sufficient water and proper sprayer calibration to obtain uniform coverage. When conditions favor high disease levels, use the high rate of application and apply once or twice more in mid to late winter before bud swell. If the leaf fall application is not practical, application of Vabra for control of leaf curl may be made at any time prior to bud swell the following spring. Where shot hole occurs, also apply at budbreak to protect newly emerging leaves and at shuck split to prevent fruit infections.
				Apply by ground or air.
	Lacy (russet) scab (plum/prune) Brown rot blossom blight (Monilinia spp.)	3½ to 4½ (2.3 to 3.1)	1 to 13/8 (0.75 to 1.0)	Make one application at popcorn (pink, red, or early white bud) and a second application at full bloom. If weather conditions favor disease development, make an additional application at petal fall.

 $3\frac{1}{8}$  to  $4\frac{1}{8}$ 

(2.3 to 3.1)

1 to 13/8

(0.75 to 1.0)

In addition to the bloom applications listed above,

make one application at shuck-split. Do not apply Vabra after shuck-split and before harvest.

Cherry leaf spot

(Blumeriella jaapii)

		PTS. PRODUCT PER (lbs. a.i. per)				
CROP	DISEASES (Pathogen)	ACRE	100 GAL.*	APPLICATION DIRECTIONS		
	Scab (Cladosporium carpophilum)			additional disease control is needed before harvest, use another registered fungicide.		
	Black knot (cherry, plum) (Apiosporina morbosa)			For control of cherry leaf spot after harvest, make one application to foliage within 7 days after fruit is removed. In orchards with a history of high leaf spot incidence, make a second application 10-14 days later.		
				Apply by ground or air.		
	e Restrictions: Do not apply me he day of harvest. The minimum			a.i.) per acre during each growing season. Vabra may		
Pistachio	Botryosphaeria blight (B. dothidea)  Suppression: Alternaria late blight (A. alternata)	6 (4.5)	3 (2.25)	Use a water volume of 20 to 200 gallons per acre. Make the first application at the beginning of the blossom period followed by an application at full bloom. Make additional applications as required on a 28-day schedule. (The minimum retreatment interval is 28 days). For Septoria and Botrytis, use		
	Septoria leaf spot (S. pistacina)	4 to 6 (3.0 to 4.5)	2 to 3 (1.50 to 2.25)	the higher rate if disease pressure is severe.		
	Botrytis blight (B. cinerea)	(3.0 to 4.3)	(1.50 to 2.25)	NOTE: Use of this product may result in speckling or reddening of the fruit hull (epicarp). This effect is superficial and has not resulted in any change in nut quality.		
				Apply by ground or air.		
	e Restrictions: Do not apply mays of harvest.	ore than 30 pints V	/abra (22.5 lbs. a.i	i.) per acre during each growing season. Do not apply		
Conifers (pines, spruces)	Swiss needlecast (Phaeocryptopus gaeumannii)	2 <sup>3</sup> / <sub>4</sub> to 5 <sup>1</sup> / <sub>2</sub> (2.1 to 4.125)	2¾ to 5½ (2.1 to 4.125)	<b>Single application technique:</b> In Christmas tree plantations or forest stands, make one application in the spring when new shoot growth is ½ to 2 inches in length.		
	Scleroderris canker (pines) (Gremmeniella abietina)	1½ to 2¾ (1.125 to 2.1)	1½ to 2¾ (1.125 to 2.1)	Make the first application in spring when new shoot growth is ½ to 2 inches in length. Make additional		
	Swiss needlecast (P. gaeumannii)			applications at 3 to 4 week intervals until conditions no longer favor disease development. For use in nursery beds, apply the highest rate specified on a		
	Sirococcus tip blight (S. conigenus)	2 to 3½ (1.5 to 2.6)	2 to 3½ (1.5 to 2.6)	3 week schedule.		
	Rhizosphaera needlecast (spruces) (Rhizosphaera spp.)	5½ (4.125)	5½ (4.125)			
	Scirrhia brown spot (pines) (Mycosphaerella dearnessii)					
	Cyclaneusma and Lophodermium needlecast (pines)	2¾ to 5½ (2.1 to 4.125)	2¾ to 5½ (2.1 to 4.125)	Apply in early spring prior to budbreak. Repeat applications at approximately 6 to 8 week intervals, until spore release ceases in late fall. Apply monthly during periods of frequent rainfall, and where Lophodermium infections occur during dormancy (Pacific NW). During drought periods,		

		PTS. PRODUCT PER (lbs. a.i. per)			
CROP	DISEASES (Pathogen)	ACRE	100 GAL.*	APPLICATION DIRECTIONS	
				applications may be suspended, then resumed upon next occurrence of needle wetness.	
	Rhabdocline needlecast (Douglas fir)	1½ to 2¾ (1.125 to 2.1)	1½ to 2¾ (1.125 to 2.1)	Apply at budbreak and repeat at 3 to 4 week intervals until needles are fully elongated and conditions no longer favor disease development. In plantations of mixed provenance, or when irregular budbreak occurs, apply weekly until all trees have broken bud, then every 3 to 4 weeks as specified above. In nursery beds, use the high rate on a 3 week schedule.	
	Botrytis seedling blight Phoma twig blight	1½ to 2¾ (1.125 to 2.1)	1½ to 2¾ (1.125 to 2.1)	Begin applications in nursery beds when seedlings are 4 inches tall and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day intervals as long as favorable disease conditions persist.	
	Autoecious needle rust (Weir's cushion) (spruce)	5½ (4.125)	5½ (4.125)	Begin applications when 10% of buds have broken and twice thereafter at 7-10 day intervals.	

Do not apply more than 22 pints Vabra (16.5 lbs. a.i.) per acre during each growing season. The minimum retreatment interval for established trees is 21 days. The minimum retreatment interval in nursery beds is 7 days.

\*Volumetric rates to be used only with full dilute spray volume specified on this label for tree and orchard crops.

MUSHROOMS: Verticillium brown spot and dry bubble – Apply 2.75 to 5.5 fl. oz. of Vabra per 1,000 sq. ft. of mushroom bed. Apply as a drench to the mushroom bed surface in at least 12.5 gallons of water per 1,000 sq. ft. of mushroom bed. Make two applications. Apply the high rate (5.5 fl. oz.) of Vabra in the first application and the low rate (2.75 fl. oz.) of Vabra in the second application. The first application should be made within two days of top-dressing the spawn-colonized mushroom compost with a casing layer. The second application should be made at pinning. Do not apply within 5 days of first harvest. Make no more than two applications per cropping cycle. Do not apply more than 8.25 fl. oz. of Vabra per cropping cycle.

#### DIRECTIONS FOR USE ON TURF AND ORNAMENTALS

#### Turf

**Group A.** Golf Course Fairways, Sod Farms, Lawns (around institutional, commercial and industrial buildings), and Ornamental Turfgrass:

**NOTE:** Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park athletic fields, athletic fields located on or next to schools (ie., elementary, middle and high schools), campgrounds, churches, and theme parks.

**NOTE:** Sod farm turf treated with chlorothalonil prior to harvest must be mechanically cut, rolled and harvested. Do not use for sodfarms at application rates greater than 13 pounds of active ingredient, per acre, per year.

Do not apply more than 34.7 pints/acre (12.7 fl. ozs./1000 sq. ft.) of Vabra per growing season (26 lbs. a.i./acre/growing season. For sodfarms, do not apply more than 17.4 pints/acre (6.4 fl. ozs./1000 sq. ft) of Vabra per growing season (13 lbs. ai./acre/growing season. The minimum growing retreatment interval for single application rates **up to** 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) is 7 days. Do not apply more than one application of a rate greater than 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) per growing season. The maximum single application rate is 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.) of Vabra (11.3 lbs. a.i./acre).

Apply Vabra in 30 to 40 gallons of water per acre. Begin applications when conditions favor disease development and repeat applications as long as these conditions persist. Under severe disease conditions use the highest rate and shortest interval corresponding with the application schedule selected from the table below.

DO NOT mow or water after treatment until spray deposited on turfgrass is thoroughly dry; Vabra should always be used in conjunction with good turf management practices.

#### **Group B.** Golf Course Tees and Greens.

**Golf Course Tees:** Do not apply more than 69.3 pints/acre (25.4 fl. ozs./1000 sq. ft.) of Vabra (52 lbs. a.i./acre) per growing season. The minimum retreatment interval for single application rates **up to** 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) is 7 days. The minimum retreatment interval after an application of a rate **greater than** 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) is 14 days. Do not apply more than two applications of a rate greater than 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) per growing season. The maximum single application rate is 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.) of Vabra (11.3 lbs. a.i./acre).

**Golf Course Greens:** Do not apply more than 97.3 pints/acre (35.7 fl. ozs./1000 sq. ft.) of Vabra (73 lbs. a.i./acre) per growing season. The minimum retreatment interval for single application rates **up to** 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) is 7 days and the minimum retreatment interval after an application of a rate **greater than** 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) is 14 days. Do not apply more than two applications of a rate greater than 9.75 pints/acre (3.6 fl. ozs./1000 sq. ft.) of Vabra (7.3 lbs. a.i./acre) per growing season. The maximum single application rate is 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.) of Vabra (11.3 lbs. a.i./acre).

Apply Vabra in an adequate amount of water to provide complete coverage. This amount may vary from 90 to 450 gallons per acre. See table below for suggested rates and timing. Under severe disease conditions use the highest rate and shortest interval corresponding with the application schedule selected from the table below.

DO NOT mow or water after treatment until spray deposited on turfgrass is thoroughly dry: Vabra should always be used in conjunction with good turf management practices.

Diseases Controlled*	Application	Pre-Disease Rates <sup>a</sup>			Post-Disease Rates <sup>a</sup>		
	Interval (days)	fl. oz. product/1000 sq. ft.	pints product/acre	lbs. a.i./acre	fl. oz. product/1000 sq. ft.	pints product/acre	lbs. a.i./acre
Dollar Spot	7 to 10	1.0 <sup>b</sup> to 2.0	2.8 b to 5.0	2.1 b to 4.1	54.16	_	_
Donar Spot	7 to 10	2.0 to 3.6	5.5 to 9.75	4.1 to 7.3	_		
	14	2.0 to 3.0	3.5 to 7.75		4.0 to 5.5	11 to 15.1	8.25 to 11.3
Leafspot	7 to 10	2.0	5.5	4.1	-	-	-
Melting-out	7 to 21	2.0 to 3.6	5.5 to 9.75	4.1 to 7.3	-	-	-
Brown Blight	14	-	-	-	4.0 to 5.5	11 to 15.1	8.25 to 11.3
Brown patch	7 to 14	2.0 to 3.6	5.5 to 9.75	4.1 to 7.3	-	-	-
•	14		-		4.0 to 5.5	11 to 15.1	8.25 to 11.3
Gray Leafspot	7 to 10	2.0 to 3.6	5.5 to 9.75	4.1 to 7.3	-	-	-
, 1	14		-		4.0 to 5.5	11 to 15.1	8.25 to 11.3
Red Thread	7 to 10	2.0 to 3.6	5.5 to 9.75	4.1 to 7.3	-	-	-
	14	3.6 to 5.5	9.9 to 15.1	7.4 to 11.3	5.5	15.1	11.3
Anthracnose	7 to 14	3.0 to 3.6	8.3 to 9.75	6.2 to 7.3	-	-	-
	14	3.6 to 5.5	9.9 to 15.1	7.4 to 11.3	-	-	-
Copper Spot	14	4.0 to 5.5	11 to 15.1	8.25 to 11.3	5.5	15.1	11.3
Stem Rust (Bluegrass)	14	4.0 to 5.5	11 to 15.1	8.25 to 11.3	5.5	15.1	11.3
DICHONDRA:	14	4.0 to 5.5	11 to 15.1	8.25 to 11.3	5.5	15.1	11.3
Leafspot (CA Only)							
Gray Snow Mold <sup>c</sup>	30	5.5	15.1	11.3	-	-	-
Fusarium (Gertlachia)	21 to 28	5.5	15.1	11.3	-	-	-
Patch <sup>c</sup>							
Algae <sup>c</sup>	7 to 14	2.0 to 3.6	5.5 to 9.75	4.1 to 7.3	2.0 to 3.6	5.5 to 9.75	4.1 to 7.3
	14				4.0 to 5.5	11 to 15.1	8.25 to 11.3

<sup>&</sup>lt;sup>a</sup> **Group A Turf:** Limit of one application per season at rates greater than 7.3 lbs. a.i./acre (9.75 pints/acre or 3.6 fl. oz./1000 sq. ft. of Vabra).

**Group B Turf:** Limit of two applications per season at rates greater than 7.3 lbs. a.i./acre (9.75 pints/acre or 3.6 fl. oz./1000 sq. ft. of Vabra).

- \* Diseases listed are caused by fungi, some of which are named as follows:
  - Dollar spot: Sclerontinia homeocarpa; Lanzia or Moellerodiscus spp.
  - Leafspots, Melting-out, Brown blight: *Drechslera* spp. (including *D. poae, D. siccans*), *Bipolaris sorokiniana, Curvularia* spp.
  - Brown patch: Rhizoctonia solani, R. zeae, R. cerealis
  - Gray leafspot: Pyricularia grisea, P. oryzae

<sup>&</sup>lt;sup>b</sup> Low rate is not effective on intensively mowed turfgrasses such as golf course tees and greens.

<sup>&</sup>lt;sup>c</sup> See specific use directions below.

• Red Thread: Laetisaria fuciformis

Anthracnose: Colletotrichum graminicolaCopper spot: Gloeocercospora sorghi

Stem rust: Puccinia graminis
Dichondra leaf spot: Alternaria spp.
Gray Snow Mold: Typhula spp.
Fusarium (Gerlachia) Patch

• Algae

Gray snow mold caused by *Typhula* spp. – Group A and B – Turf: Apply in sufficient water to obtain adequate coverage (2 to 10 gallons per 1000 sq. ft.). Apply one application 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.) of Vabra (11.3 lbs. a.i./acre). Application must be made before snow cover in autumn. Group B Turf: If snow cover is intermittent or lacking during the winter, a second application of Vabra at 15.1 pints/acre (5.5. fl. ozs./1000 sq. ft.) may be applied one month after the first application.

Fusarium (Gerlachia) Patch: Group A and B Turf: In areas where pink snow mold (Gerlachia or Fusarium patch) is likely to occur, apply Vabra at 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.)(11.3 lbs. a.i./acre) in combination with products containing iprodione at 88 ozs. a.i./acre (2 ozs. a.i./1000 sq. ft.) of turf area. Read and observe all label directions for products containing these active ingredients. For control of Fusarium patch only in areas where snow cover is intermittent or lacking during the winter, apply 15.1 pints/acre of Vabra (5.5 fl. ozs./1000 sq. ft.)(11.3 lbs. a.i./acre). Make application in late autumn. Group B Turf: Apply a second application of 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.) of Vabra 21 to 28 days after the first application unless conditions favorable for Fusarium patch no longer prevail.

Algae: Group A and B Turf: For prevention of algae on turfgrasses, apply Vabra at the rate of 5.5 to 9.75 pints/acre (2.0 to 3.6 fl. ozs./1000 sq. ft.) (4.1 to 7.3 lbs. a.i./acre) on a 7 to 14 day schedule. Under severe algae conditions use the 9.75 pints/acre (3.6 fl. oz./1000 sq. ft.) rate and apply on a 7 day schedule.

When algae is well established, every attempt should be made to dry out the afflicted area. Once dry, spiking or verticutting should be done to enhance turfgrass recovery in conjunction with a Vabra application at the rate of 11 to 15.1 pints/acre (4.0 to 5.5 fl. ozs./1000 sq. ft.). Group B Turf: A second application at the 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.) rate may be made 14 days after the first application.

Group A and B Turf: Following applications of the 15.1 pints/acre (5.5 fl. ozs./1000 sq. ft.) rate, several applications of Vabra at a rate of 5.5 to 9.75 pints/acre (2.0 to 3.6 fl. ozs./1000 sq. ft.)(4.1 to 7.3 lbs. a.i./acre) on a 7 to 14 day interval may be necessary for turfgrass recovery. Only a preventative spray program with Vabra will prevent a recurrence of the algae when environmental conditions are favorable.

#### **Ornamental Plants**

Apply Vabra at a rate of 1% pints (1.0 lb. a.i.) per 100 gallons of water unless other directions are given in the tables below. DO NOT apply more than 48.5 pints of Vabra (36.4 lbs. a.i./acre) per growing season to field grown ornamentals. Apply in a spray to run-off, when conditions are favorable for disease development. Repeat applications at 7 to 14 day intervals until conditions are no longer favorable. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, apply Vabra at 7 day intervals. The minimum retreatment interval is 7 days. Vabra should be applied to plants when both foliage and flowers are dry, or nearly dry.

DO NOT combine Vabra in the spray tank with pesticides, surfactants or fertilizers, unless your prior use has shown the combination to be physically compatible, effective and noninjurious under your conditions of use.

Vabra may be used in greenhouses for ornamental plants. DO NOT use mistblowers or high pressure spray equipment when making applications of Vabra in greenhouses.

Use of Vabra is recommended for control of fungal diseases referred to by numbers in parentheses following each ornamental. Ornamentals listed on this label have been tested and found to tolerate applications of Vabra at the recommended rates. The user should test for possible phytotoxic response, using recommended rates on ornamental plants on a small area prior to commercial use. Applications made during bloom may damage flowers and/or fruits.

Fruits and other structures which may be borne on treated plants MUST NOT BE EATEN.

#### Ornamentals recommended for treatment with Vabra

#### **Broadleaf Shrubs and Trees:**

Andromeda (Pieris) (4) Ash (Fraxinus) (1) Aspen (1) Azalea (1,2,4)

Buckeye, Horsechestnut (1) Cherry-Laurel (1) Crabapple (1,6,8) Dogwood (1) Eucalyptus (3) Euonymus (1)

Firethorn (Pyracantha) (1) Flowering Almond (1,2) Flowering Cherry (1,2) Flowering Peach (1,2) Flowering Plum (1,2) Flowering Quince (1,2)

Hawthorn (1,6)

Holly (1) Lilac (5) Magnolia (1) Maple (1)

Mountain Laurel (1) Oak (red group only) (1,7) Oregon-Grape (Mahonia) (6)

Photinia (1) Poplar (1)

Privet (Ligustrum) (1) Rhododendron (1,2,4) Sand Cherry (1,2) Sequoia (1) Spiraea (1)

Sycamore, Planetree (1) Viburnum (5) Walnut (Juglans) (1)

#### Flowering Plants<sup>a</sup> and Bulbs

Arabian Violet (2) Begonia (1) Camellia (2) Carnation (1,2) Chrysanthemum (1,2) Crocus (1) Daffodil (1) Daisy (1) Geranium (1,6) Gladiolus (1,2) Hollyhock (6) Hydrangea (foliage only) (1,6) Iris (1,2)

Iris, bulbous (1) Lily (1) Lily, Asiatic (1) Marigold (1) Narcissus (1) Pansy (1) Petunia (1,4) Phlox (1) Poinsettia<sup>b</sup> (1) Rose<sup>c</sup>(1) Statice (1) Tulip (1) Zinnia (1,5)

#### **Foliage Plants**

Aglaonema (1) Areca palm (1) Artemesia (1)

Dumbcane (Dieffenbachia) (1)

Dracaena (1) Fatsia (Aralia) (1) Ficus (1) Lipstick plant (1)

Ming aralia (1) Oyster plant (Rhoeo) (1)

Pachysandra<sup>d</sup>(1) Parlor Palm (Chamaedorea) (1)

Peperomia (1) Philodendron (1,4) Prayer plant (Maranta) (1) Syngonium (1)

Zebra plant (Aphelandra) (1)

#### Diseases controlled with Vabra:

#### 1. Leafspots/Foliar Blights:

Achtinopelte leafspot Alternaria leafspot/leaf blight Anthracnose leaf blotch, spot Anthracnose (Discula) blight

Ascochyta blight

Bipolaris (Helminthosporium) leafspot

Black spot on roses Botrytis leafspot, leaf blight Cephalosporium leafspot Cercospora leafspot Cercosporidium leafspot Corynespora leafspot Coryneum blight (shothole) Curvularia leafspot Cylindrosporium leafspot

Dactylaria leafspot Didymellina leafspot Drechslera leafspot

Fabraea (Entomosporium) leafspot

Fusarium leafspot

Gloeosporium black leafspot Ink spot (Dreschlera) Marssonina leafspot

Volutella leaf blight

Monilinia blossom blight, twig blight

Mycosphaerella ray blight Myrothecium leafspot, brown rot Nematostoma leaf blight Phyllosticta leafspot Ramularia leafspot Rhizoctonia web blight Septoria leafspot Sphaeropsis leafspot Stagonospora leaf scorch Tan leaf spot (Curvularia)

<sup>&</sup>lt;sup>a</sup> Avoid applications during bloom period on plants where flower injury is unacceptable.

<sup>&</sup>lt;sup>b</sup> Discontinue applications prior to bract formation; phytotoxicity is possible on the bracts.

<sup>&</sup>lt;sup>c</sup> Use 1 pint Vabra (.75 lbs. a.i.) per 100 gallons of water.

<sup>&</sup>lt;sup>d</sup>Use 2¾ pints Vabra (2.1 lbs. a.i.) per 100 gallons of water.

#### 2. Flower spots/blights:

Botrytis flower spot, flower blight Curvularia flower spot Monilinia blossom blight Ovulinia flower blight Rhizopus blossom blight Sclerotinia flower blight

#### 3. Cylindrocladium stem canker

#### 4. Phytophthora leaf blight, dieback

#### 5. Powdery mildews

Erysiphe cichoracearum Microsphaera spp.

#### 6. Rusts

Gymnosporangium spp.
Pucciniastrum hydrangeae
Puccinia spp.

#### 7. Taphrina blister

#### 8. Scab (Venturia inaequalis)

The following ornamental plant species which have been tested with Vabra at recommended rates did not exhibit phytotoxicity:

**Botanical Name** Common Name Aechmea fasciata Aechmea Araucaria heterophylla Norfolk Island Pine Bougainvillea spp. Bougainvillea Caladium Caladium spp. Calathea makoyana Peacock Plant Calistephus chinensis Aster Natal Plum Carissa grandiflora Clerodendron thomsonae Bleeding Heart Codiaeum spp. Croton Cordyline terminalis Ti Plant Jade Plant Crassula argentea Dionaea muscipula Venus Fly Trap False Aralia Dizygotheca elegantissima Epipremnum aureum Golden Pothos, Scindapsus Episcia cupreata Flame Violet Fittonia spp. Silver-nerve plant Gerbera jamesonii Gerbera Daisy Gynura sarmentosa Purple Passion Vine Gypsophilia paniculata Baby's Breath Wax Plant Hoya spp.

Ilex cornuta Chinese Holly Ilex crenata Japanese Holly Impatiens Impatiens spp. Pilea cadierei Aluminum Plant Sansevieria trifasciata "Hahnii" Birdsnest Sansevieria Tolmeia menziesii Piggy-back plant Spineless Yucca Yucca elephantipes Zygocactus truncatus Christmas Cactus

**NOTE:** DO NOT apply Vabra to either green or variegated Pittosporum or to Schefflera, as multiple applications have been demonstrated to cause phytotoxic responses.

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