

45728-12

8/22/2008

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505C)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NOTICE OF PESTICIDE:
 Registration
 Reregistration
(under FIFRA, as amended)

EPA Reg. Number:

45728-12

Date of Issuance:

AUG 22 2008

Terms of Issuance:
Unconditional

Name of Pesticide Product:
Ziram Granuflo

Name and Address of Registrant (include ZIP Code):

Taminco, Inc.
33350 Riverwood Parkway
Suite 1900
Atlanta, GA 30339

Mailed To: Vincent J. Picirillo
Agent for Taminco, Inc.
21320 Sweet Clover Place
Ashburn, VA 20147

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

Based on your response to the Ziram Reregistration Eligibility Document(s), EPA has reregistered the product listed above. Enclosed is a copy of your label stamped "Accepted with comments." This action is taken under the authority of section 4(g)(2)(c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain the registration of your product.

Signature of Approving Official:
Tony Kish, Product Manager Team 22
Fungicide Branch
Registration Division (7505P)

Date:

AUG 22 2008

45728-12

1. Submit one copy of your final printed label with the changes herein, before you release the product for shipment.

- On page 3, under " Examples", first line add the words "per acre" after ZIRAM GRANUFLO in the first line.
- On page 3, in the two charts, add "per acre" after the number of lbs.
- On page 5, under directions for use for "apples" in the first line, the first line should read as follows: "Apply pre-bloom and calyx sprays. Do not apply within 14 days of harvest. East of the.....do not"
- On page 8 under grapes West of the Rockies, change "bloon" to "bloom" and change the last line to state "Do not apply within 10 days of harvest".
- On page 9, the heading should read "ZIRAM GRANUFLO APPLICATION INFORMATION SPECIFIC TO ORNAMENTAL CROPS."
- On page 10, change the footnote to state "(1) Not for use in California. Do not eat fruit from treated trees."
- On each of pages 5, 6, 7 and 9, there are four footnotes at the bottom, and on page 8 there is only one. Not each page contains all four footnotes in the text. Either list all four foot notes in one location for the entire label, or on each page, list only the ones that are referenced.

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

Enclosure



Fungicide

ACTIVE INGREDIENT:
Ziram (zinc dimethyl dithiocarbamate)*.....76.0%
OTHER INGREDIENTS:.....24.0%
TOTAL 100.0%

*Zinc expressed as metallic.....16.25%

EPA Reg. No. 45728-12 EPA Est. No. 32557-BEL-1 EPA Est. No. 72178-SC-001

**KEEP OUT OF REACH OF CHILDREN
DANGER**

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

ACCEPTED
with COMMENTS
In EPA Letter Dated
AUG 22 2008

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
45728-12

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"> ◆ 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 INHALED	<ul style="list-style-type: none"> ◆ 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 SWALLOWED	<ul style="list-style-type: none"> ◆ 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 ON SKIN OR CLOTHING	<ul style="list-style-type: none"> ◆ 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.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For Emergencies involving a Spill, Leak, Fire, Exposure, or Accident, Contact: CHEMTREC at (800) 424-9300. For product usage information, phone Taminco, Inc., toll free at (800) 223-3258 from 9:00 AM to 5:00 PM Eastern time.	
NOTE TO PHYSICIAN	
Possible mucosal damage may contraindicate the use of gastric lavage.	

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are made of any waterproof material. If you want more options, follow the instructions for Category A on an EPA chemical-resistant category selection chart.

Pilots applying this product in an enclosed cockpit must wear:
- Long sleeved shirt and long pants, and
- Shoes plus socks.

All other handlers must wear:
- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Goggles, face shield or safety glasses,
- Chemical-resistant gloves, 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.

See engineering controls for additional requirements.

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.

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

User Safety Recommendations:

User should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE 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.

See Other Panels for Additional Precautionary Statements.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Corrosive. Causes irreversible eye damage. May be fatal if inhaled. Harmful if swallowed or absorbed through skin. Do not breathe dust or spray mist. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

4 7 12

GENERAL USE INFORMATION

Ziram Granuflo is a broad spectrum fungicide for the control of certain diseases in fruit and nut crops, and ornamentals. Taminco, Inc.'s recommendations for the use of this product are based upon tests believed to be reliable. Ziram Granuflo is not for residential use. **FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR DISEASE CONTROL, OR ILLEGAL RESIDUES.** Read entire label carefully and use only as directed.

Ziram Granuflo is effective against many fungal diseases and is non phytotoxic to labeled crops. It is compatible with most commonly used pesticides and adjuvants. It may be used with systemic fungicides, such as TOPSIN® M, for broad-spectrum disease control and can be used in Integrated Pest Management (IPM) programs.

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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. Do not discharge effluent containing the product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. Do not contaminate water when disposing of equipment wash waters.

CHEMIGATION: Do not apply this product through any type of irrigation system.

GENERAL PRECAUTIONS AND RESTRICTIONS

Do not apply this product in a way that will contact any person, pet, either directly or through drift.

<p>AGRICULTURAL USE REQUIREMENTS</p> <p>Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about (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.</p> <p>Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.</p> <p>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:</p> <ul style="list-style-type: none"> - Coveralls - Chemical-resistant gloves made of any waterproof material - Shoes plus socks - Protective eye wear - Chemical-resistant headgear for overhead exposure
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DIRECTIONS AND RECOMMENDATIONS:

Use recommended rates for concentrate, dilute and aerial applications. For dilute application, use Ziram Granuflo® at the recommended rates per 100 gallons. Ground application is preferred, especially when full canopy of foliage exists. ZIRAM GRANUFLO® may be applied as a concentrate in a minimum of 20 gallons or more of spray solution per acre by ground spray equipment or in a minimum of 10 gallons or more per acre by aircraft equipment. Increase spray volume and fungicide rate (according to labeling specifications) as crop growth increases to ensure thorough coverage and adequate protection of the foliage and fruit. Under low disease conditions, minimum label rates per application should be used, however, maximum label rates and shortened spray schedules are recommended for severe or threatening disease conditions.

Complete coverage and uniform application are essential for the most effective results, especially when lower spray volumes are applied. Be sure spray equipment is clean before use. If it is contaminated with any material, crop injury or sprayer clogging may result. Calibrate spray equipment before use. Attention should be given to sprayer speed and calibration, wind speed, and tree and vine canopy to ensure adequate spray coverage with ZIRAM GRANUFLO®.

For dilute application, use ZIRAM GRANUFLO® at the recommended rates per 100 gallons. For concentrate ground application, use ZIRAM GRANUFLO® at the recommended rate per acre. The following should be used to determine the equivalent amount of product per acre in 1/2X, 1X, 2X, 3X, 4X (where X = per 100 gal), etc. spray solutions:

POUNDS ZIRAM GRANUFLO® FUNGICIDE PER ACRE FOR DILUTE AND CONCENTRATE SPRAYS			
POME FRUIT (APPLE)		STONE FRUIT (PEACH & NECTARINE)	
1/2X or 50 gal/acre	6 lbs/acre	1/2X or 50 gal/acre	3.75 lbs/acre
1X or 100 gal/acre	6 lbs/acre	1X or 100 gal/acre	3.75 lbs/acre
2X or 200 gal/acre	6 lbs/acre	2X or 200 gal/acre	3.75 lbs/acre
3X or 300 gal/acre	6 lbs/acre	3X or 300 gal/acre	3.75 lbs/acre
4X or 400 gal/acre	6 lbs/acre	4X or 400 gal/acre	3.75 lbs/acre

Where ZIRAM GRANUFLO® rate per acre is not available, the following can be used to determine dilute and concentrate sprays per acre use rates based on per 100 gallon volume use rates:

Examples:

- 1) A vineyard consisting of mature grapevines requires 3 to 4 pounds of ZIRAM GRANUFLO® for adequate black rot, downy mildew, phomopsis cane and leaf spot, ripe rot and botrytis bunch rot control. The following table reflects how the rates are equivalent comparing both dilute and concentrate applications:

POUNDS ZIRAM GRANUFLO FUNGICIDE DILUTE AND CONCENTRATE SPRAYS BASED ON PER 100 GALLON RECOMMENDATION		
CROP	DILUTE (PER 100 GALLONS)	CONCENTRATE (PER 20-100 GALLONS)
Grape (Eastern U.S.)	3 - 4 lbs	3 - 4 lbs

- 2) A blueberry field consisting of mature blueberries requires 3 pounds of ZIRAM GRANUFLO® for adequate mummyberry control. The following table reflects how the rates are equivalent comparing both dilute and concentrate applications:

POUNDS ZIRAM GRANUFLO FUNGICIDE DILUTE AND CONCENTRATE SPRAYS BASED ON PER 100 GALLON RECOMMENDATION		
CROP	DILUTE (PER 100 GALLONS)	CONCENTRATE (PER 20-100 GALLONS)
Blueberries	3 lbs	3 lbs

These rate recommendations can be used in concentrate, dilute and aerial applications. Ground application is preferred, especially when full canopy or foliage exists.

6 8 12

IMPORTANT: When spraying, thorough coverage is necessary to provide good disease control. Make new dilutions for each spraying. If a spreader/sticker is added to the finished spray mixture, do not use for pre-harvest sprays. Also, it is not recommended that a spreader/sticker be used on fruit that will not be washed following harvest and prior to commercial pack-out. The use of a spreader/sticker for applications to apricots is not recommended for risk of adverse effects to fruit finish.

MIXING INSTRUCTIONS

To mix, fill the spray tank about 2/3 full of water, and with agitator running, slowly sift in the required amount of Ziram Granuflo®. Finish filling the tank with water and let mixing continue in the tank until thoroughly mixed. Continue agitation and apply immediately.

Do not graze or feed cover crops from treated orchards.

STORAGE AND DISPOSAL

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

Pesticide Storage

Keep away from fire and sparks.

Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. Do not put concentrate or dilute material into food or drink containers.

In case of spill: Avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

For Emergencies Involving a Spill, Leak, Fire, Exposure, or Accident, contact: CHEMTREC at (800) 424-9300. For product usage information, phone Taminco, Inc., toll free at (800) 426-3820 from 9:00 AM to 5:00 PM Eastern time.

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter, or commercial clay. Sweep up material and dispose according to Pesticide Disposal. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

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 the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal

Completely empty container into application equipment. Then dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

TERMS OF SALE OR USE

On purchase of this product, buyer and user agree to the following conditions:

Warranty: Taminco, Inc. makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as so warranted, the product is sold as is. To the extent consistent with applicable law, buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

Damages: To the extent consistent with applicable law, buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

Ziram Granuflo® is a Registered Trademark of Taminco N.V., a Belgian corporation.

NET WEIGHT:



Taminco, Inc.
3350 Riverwood Parkway
Suite 1900
Atlanta, GA 30339

ZIRAM GRANUFLO® APPLICATION INFORMATION SPECIFIC TO CROP

FRUIT AND NUT TREE CROPS	DISEASES	POUNDS ZIRAM GRANUFLO®		DIRECTIONS FOR USE
		per acre	per 100 gal	
ALMONDS	Brown Rot Blossom Blight and Twig Blight (<i>Monilinia</i> spp.) Leaf Blight (<i>Seimatosporium fichenicola</i>) Scab (<i>Cladosporium carpophilum</i>) Shot Hole (<i>Coryneum Blight</i>) (<i>Stigmina carpophilum</i>) Anthraco se	8 lbs	2 2/3 lbs ⁽²⁾	Apply pre-bloom through petal fall periods. Do not apply later than 5 weeks after petal fall. Do not apply more than 32 lbs/A per crop cycle. ⁽⁴⁾
APPLES	Apple Scab (<i>Venturia inaequalis</i>) Cedar Apple Rust⁽¹⁾, Quince Rust⁽¹⁾ (<i>Gymnosporangium</i> spp.) Sooty Blotch⁽¹⁾ (<i>Gloeodes pomigena</i>) Fly Speck⁽¹⁾ (<i>Schizothyrium perexiguum</i>) Bitter Rot⁽¹⁾ (<i>Glomerella cingulata</i>) Necrotic Leaf Blotch	6 lbs	1 1/2 lbs ⁽²⁾	Apply pre-bloom and calyx sprays. Do not apply within 14 days of harvest. East of the Rockies: Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 42.4 lbs. (32.2 lbs. A.I./A per crop cycle. No more than 7 applications per crop cycle. Aerial application is prohibited. West of the Rockies: Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 24.2 lbs. (18.4 lbs. A.I./A per crop cycle. No more than 4 applications per crop cycle. Aerial application allowed for pre-harvest application only. ⁽⁴⁾
	Bull's-Eye Rot (Pacific Northwest only) (<i>Pezicula malicorticis</i>)	6 lbs	1 1/2 lbs ⁽²⁾	Apply in the first cover spray and in pre-harvest spray before fall rains begin. Do not apply within 14 days of harvest. Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 24.2 lbs. (18.4 lbs. A.I./A per crop cycle. No more than 4 applications per crop cycle. ⁽⁴⁾ Aerial application allowed for pre-harvest application only.
	Perennial Canker (<i>Neofabraea perennans</i>)	6 lbs	1 1/2 lbs ⁽²⁾	Apply pre-bloom and calyx sprays. East of the Rockies: Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 42.4 lbs. (32.2 lbs. A.I./A per crop cycle. No more than 7 applications per crop cycle. Aerial application is prohibited. West of the Rockies: Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 24.2 lbs. (18.4 lbs. A.I./A per crop cycle. ⁽⁴⁾ No more than 4 applications per crop cycle. Aerial application allowed for pre-harvest application only.
APRICOTS	Brown Rot Blossom Blight, Twig Blight and Fruit Rot (<i>Monilinia</i> spp.) Shot-Hole (<i>Stigmina carpophila</i>)	6 to 8 lbs (except CA) 8 lbs (CA only)	2 to 2 2/3 lbs ⁽³⁾ 2 2/3 lbs.	Apply at popcorn, full bloom, petal fall, and/or 5 weeks after petal fall, and in cover sprays, as needed. Do not apply more than 8 lbs. (6.1 lbs. A.I./A per application. Do not apply more than 32.1 lbs. (24.4 lbs. A.I./A per crop cycle. ⁽⁴⁾ No more than 4 applications per crop cycle. Do not apply within 30 days of harvest.
C HERRIES East of the Rockies	Brown Rot Blossom Blight, Twig Blight and Fruit Rot (<i>Monilinia</i> spp.) Leaf Spot (<i>Blumeriella jaapii</i>) Black Knot	5 to 6 lbs	1 2/3 to 2 lbs ⁽³⁾	Apply at pre-bloom through cover sprays as needed. Under severe disease pressure use the higher rate. Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 24.2 lbs. (18.4 lbs. A.I./A per crop cycle. ⁽⁴⁾ No more than 4 applications per crop cycle. Aerial application is prohibited. Do not apply within 14 days of harvest.
C HERRIES West of the Rockies, except CA	Brown Rot Blossom Blight, Twig Blight and Fruit Rot (<i>Monilinia</i> spp.) Leaf Spot⁽¹⁾ (<i>Blumeriella jaapii</i>)	4 to 6 lbs (except CA)	1 1/3 to 2 lbs ⁽³⁾	Apply at pre-bloom through cover sprays as needed. Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 24.2 lbs. (18.4 lbs. A.I./A per crop cycle. ⁽⁴⁾ No more than 4 applications per crop cycle. Do not apply within 14 days of harvest.
C HERRIES CA only	Brown Rot Leaf Spot	5	1 2/3 ⁽³⁾	Do not apply more than 5 lbs. (3.8 lbs. A.I./A per application. Do not apply more than 20 lbs. (15.2 lbs. A.I./A per crop cycle. No more than 4 applications per crop cycle. ⁽⁴⁾ Do not apply within 7 days of harvest. Do not apply within 7 days of harvest.

(1) Not for use in California.
 (2) Based on dilute sprays of 400 gallons per acre.
 (3) Based on dilute sprays of 300 gallons per acre.
 (4) Crop cycle is defined as pre-bloom through post-harvest.

ZIRAM GRANUFLO® APPLICATION INFORMATION SPECIFIC TO CROP

FRUIT AND NUT TREE CROPS	DISEASES	POUNDS ZIRAM GRANUFLO®		DIRECTIONS FOR USE
		per acre	per 100 gal	
PEACHES AND NECTARINES East of the Rockies	Brown Rot Blossom Blight, Twig Blight and Fruit Rot (Monilinia spp.) Peach Scab, Red Spot, Sooty Peach	4 1/2 to 8 lbs	1 1/2 to 2 2/3 lbs ⁽³⁾	Apply at pre-bloom through cover sprays as needed. Do not apply within 14 days of harvest. Under severe disease pressure use the higher rate. Do not apply more than 8 lbs. (6.1 lbs. A.I./A per application. Do not apply more than 48.2 lbs. (36.6 lbs. A.I./A per crop cycle. No more than 6 applications per crop cycle ⁽⁴⁾ . Aerial application is prohibited.
	Peach Blight (i.e. Shot Hole) (Stigmina carpophila)	4 1/2 to 8 lbs	1 1/2 to 2 2/3 lbs ⁽³⁾	Apply at pre-bloom through cover sprays as needed. In addition to spray program, apply 8 lbs/A in the fall before the heavy rains. Do not apply within 14 days of harvest. Do not apply more than 8 lbs. (6.1 lbs. A.I./A per application. Do not apply more than 48.2 lbs. (36.6 lbs. A.I./A per crop cycle. No more than 6 applications per crop cycle ⁽⁴⁾ . Aerial application is prohibited.
	Peach Leaf Curl (Taphrina deformans)	3 3/4 to 8 lbs	1 1/4 to 2 2/3 lbs ⁽³⁾	Make dormant applications after leaf drop and/or prior to bud swell. Do not apply more than 8 lbs. (6.1 lbs. A.I./A per application. Do not apply more than 48.2 lbs. (36.6 lbs. A.I./A per crop cycle. No more than 6 applications per crop cycle ⁽⁴⁾ . Aerial application is prohibited. Do not apply within 14 days of harvest.
PEACHES AND NECTARINES West of the Rockies	Brown Rot Blossom Blight, Twig Blight and Fruit Rot (Monilinia spp.)	6 lbs	2 lbs ⁽³⁾	Apply at pre-bloom through cover sprays as needed. Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 36.3 lbs. (27.6 lbs. A.I./A per crop cycle. No more than 6 applications per crop cycle ⁽⁴⁾ . Do not apply within 30 days of harvest.
	Peach Blight (i.e. Shot Hole) (Stigmina carpophila)	6 lbs	2 lbs ⁽³⁾	Apply at pre-bloom through cover sprays as needed. Do not apply more than 6 lbs. (4.6 lbs. A.I./A per application. Do not apply more than 36.3 lbs. (27.6 lbs. A.I./A per crop cycle. No more than 6 applications per crop cycle ⁽⁴⁾ . Do not apply within 30 days of harvest.
	Peach Leaf Curl (Taphrina deformans)	8 to 10 lbs 8 lbs (CA only)	2 2/3 to 3 1/3 lbs ⁽³⁾ 2 2/3 lbs ⁽³⁾	Make dormant applications after leaf drop and/or prior to bud swell. Do not apply more than 10 lbs. (7.6 lbs. A.I./A per application. Do not apply more than 60 lbs. (45.6 lbs. A.I./A per crop cycle. No more than 6 applications per crop cycle ⁽⁴⁾ .

- (1) Not for use in California.
- (2) Based on dilute sprays of 400 gallons per acre.
- (3) Based on dilute sprays of 300 gallons per acre.
- (4) Crop cycle is defined as pre-bloom through post-harvest.

ZIRAM GRANUFLO® APPLICATION INFORMATION SPECIFIC TO CROP

FRUIT AND NUT TREE CROPS	DISEASES	POUNDS ZIRAM GRANUFLO		DIRECTIONS FOR USE
		per acre	per 100 gal	
PEARS	Pear Scab (<i>Venturia pyrina</i>) Quince Rust ⁽¹⁾ (Gymnosporangium spp.) Sooty Blotch ⁽¹⁾ (<i>Gloeodes pomigena</i>) Fly Speck ⁽¹⁾ (<i>Schizothyrium pomi</i>) Bitter Rot ⁽¹⁾ (<i>Glomerella cingulata</i>) Fabraea Leaf Spot ⁽¹⁾ (<i>Diplocarpon mespili</i>)	6 lbs	1 1/2 lbs ⁽²⁾	Apply from pre-bloom through cover sprays as needed. Aerial application allowed only as a pre-harvest application. East of the Rockies: The maximum allowable rate per application is 6 lbs. (4.6 lbs. A.I./A). The maximum allowable rate per crop cycle is 42.4 lbs. (32.2 lbs. A.I./A). The maximum number of applications per crop cycle is 7. ⁽⁴⁾ Do not apply within 14 days of harvest. West of the Rockies: The maximum allowable rate per application is 6 lbs. (4.6 lbs. A.I./A). The maximum allowable rate per crop cycle is 24.2 lbs. (18.4 lbs. A.I./A). The maximum number of applications per crop cycle is 4. ⁽⁴⁾ Do not apply within 5 days of harvest.
	Bull's-Eye Rot (Pacific Northwest only) (<i>Peziicola malicortidis</i>)	6 lbs	1 1/2 lbs ⁽²⁾	Apply in the first cover spray and in pre-harvest spray before fall rains begin. Do not apply within 5 days of harvest. The maximum allowable rate per application is 6 lbs. (4.6 lbs. A.I./A). The maximum number of applications per crop cycle is 24.2 lbs. (18.4 lbs. A.I./A). The maximum number of applications per crop cycle is 4. ⁽⁴⁾ Aerial application allowed only as a pre-harvest application.
	Storage Rot (<i>Phialophora malorum</i>)	6 lbs	1 1/2 lbs ⁽²⁾	Apply as a pre-harvest spray. Aerial application allowed only as a pre-harvest application. East of the Rockies: The maximum allowable rate per application is 6 lbs. (4.6 lbs. A.I./A). The maximum allowable rate per crop cycle is 42.4 lbs. (32.2 lbs. A.I./A). The maximum number of applications per crop cycle is 7. ⁽⁴⁾ Do not apply within 14 days of harvest. West of the Rockies: The maximum allowable rate per application is 6 lbs. (4.6 lbs. A.I./A). The maximum allowable rate per crop cycle is 24.2 lbs. (18.4 lbs. A.I./A). The maximum number of applications per crop cycle is 4. ⁽⁴⁾ Do not apply within 5 days of harvest.
PECANS	Pecan Scab (<i>Cladosporium effusum</i>) Anthraxnose (<i>Glomerella cingulata</i>)	6 to 8 lbs	1 1/2 to 2 2/3 lbs ⁽³⁾	Begin applications when leaves are 1/4 to 1/2 inches long. Repeat after pollination is complete for up to 5 cover sprays at 3-4 week intervals. Do not apply more than 8 lbs. (6.1 lbs. A.I./A) per application. Do not apply more than 48.2 lbs. (36.6 lbs. A.I./A) per crop cycle. ⁽⁴⁾ No more than 6 applications per crop cycle. Do not apply within 55 days of harvest. Aerial application is prohibited.

- (1) Not for use in California.
- (2) Based on dilute sprays of 400 gallons per acre.
- (3) Based on dilute sprays of 300 gallons per acre.
- (4) Crop cycle is defined as pre-bloom through post-harvest.

ZIRAM GRANUFLO® APPLICATION INFORMATION SPECIFIC TO CROP

SMALL FRUIT AND VEGETABLE CROPS	DISEASES	POUNDS ZIRAM GRANUFLO®		DIRECTIONS FOR USE
		per acre	per 100 gal	
Blackberries ⁽¹⁾	Evergreen blackberry canker	3 lbs	3 lbs	Apply in sufficient water for thorough coverage. Make or application between mid-June and early July. Aerial appli prohibited.
Blueberries ⁽¹⁾	Mummyberry (Monilinia vaccinii-corymbosi) Phomopsis (Twig Blight, Cane and Stem Canker) Anthracnose Fruit Rot (Ripe Rot) Botrytis (aids in control)	3 lbs	3 lbs	Apply in sufficient water for thorough coverage. Apply at loose bud scale stage and 7 days later. Do not apply later than 3 weeks after full bloom. Aerial applicati prohibited.
Grape East of the Rockies	Black Rot (Guignardia bidwellii) Downy Mildew (Plasmopara viticola) Phomopsis Cane and Leaf Spot (Phomopsis viticola) Ripe Rot (Glomerella cingulata) Botrytis Bunch Rot (Botrytis cinerea) (aides in control)	3 to 4 lbs	3 to 4 lbs	Begin applications when shoots are at least 1 inch long a continue at 7-14 day intervals or as necessary according the integrated pest management guidelines for the partic growing area. Use shorter intervals under heavy disease pressure. Do not apply more than 28 lbs per acre per crop cycle. Do not apply later than 21 days to harvest. Aerial applica prohibited.
Grape West of the Rockies	Black Rot (Guignardia bidwellii) Downy Mildew (Plasmopara viticola) Phomopsis Cane and Leaf Spot (Phomopsis viticola) Ripe Rot (Glomerella cingulata) Botrytis Bunch Rot (Botrytis cinerea) (aides in control)	3 to 4 lbs	3 to 4 lbs	Apply when shoots are ½ to 1½ inches long and repeat at 7-10 day intervals as needed. Do not apply after bloom apply later than 10 days to harvest.
Tomato ⁽¹⁾ (Do not use on Cherry tomatoes)	Anthracnose (Colletotrichum coccodes) Early Blight (Alternaria solani) Septoria Leaf Spot (Septoria lycopersid)	3 to 4 lbs	3 to 4 lbs	Begin applications at first sign of infection and continue at 7-14 day intervals. Use the shorter spray interval under high disease pressure. Do not apply more than 23.7 lbs (18.0 lbs. A.I.) per crop cycle. Do not apply wi days of harvest. Ziram can be mixed with copper fungici enhance bacterial disease control. Aerial application is p

(1) Not for use in California.

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ZIRAM GRANUFLO® APPLICATION INFORMATION SPECIFIC TO CROP

ORNAMENTAL CROPS(1)	DISEASES	POUNDS ZIRAM GRANUFLO		DIRECTIONS FOR USE
		per acre	per 100 gal	
Asters	Rust (Puccinia spp.)	8 lbs	1 1/2 to 2 lbs	Begin application early in the growing season and continue every 7 days as needed until blossoms form.
Azaleas Camellias	Petal Blight (Pestalotia spp.)	8 lbs	1 1/2 to 2 lbs	Begin application with first bloom. Apply at 3 to 5 day intervals as a drench to mulch and litter beneath and around bushes through bloom period.
Carnations Chrysanthemums Marigolds Morning Glory Snapdragons	Rust (Puccinia spp.)	8 lbs	1 2/3 to 2 lbs	Apply at 7 to 10 day intervals as needed throughout the growing season.
Carnations Chrysanthemums Dahlias Gladiolus Snapdragons	Leaf Spot (Alternaria spp.)	8 lbs	1 2/3 to 2 lbs	Apply at 7 day intervals as needed throughout the growing season.
Cyclamens Gardenias	Botrytis Blight (Botrytis spp.) Leaf Spot (Phyllostica spp.)	8 lbs	1 1/2 to 2 lbs	Apply at 7 to 10 day intervals as needed throughout the growing season.
Dahlias Delphinium Golden Glow Hollyhocks Phlox	Powdery Mildew (Erysiphe cichoracearum)	8 lbs	1 2/3 to 2 lbs	Apply at 7 day intervals as needed throughout the growing season.
Lilies Peonies Poinsettias Tulips	Botrytis Blight (Botrytis spp.)	8 lbs	1 1/2 to 2 lbs	Apply at 7 to 10 day intervals as needed throughout the growing season.
Roses	Black Spot (Diplocarpon rosae) Powdery Mildew (Sphaerotheca spp.)	8 lbs	1 2/3 to 2 lbs	Begin application when leaves unfold. Apply at 7 to 10 day intervals as needed throughout the growing season.

- (1) Not for use in California.
- (2) Based on dilute sprays of 400 gallons per acre.
- (3) Based on dilute sprays of 300 gallons per acre.
- (4) Crop cycle is defined as pre-bloom through post-harvest.

ZIRAM GRANUFLO® APPLICATION INFORMATION SPECIFIC TO CROP

ORNAMENTAL TREES AND FRUIT(1)	DISEASES	POUNDS ZIRAM GRANUFLO		DIRECTIONS FOR USE
		per acre	per 100 gal	
Conifers Pine Seedlings	Fusiform Rust	8 lbs	2 lbs	Apply at 3 to 5 day intervals from plant emergence to mid-June.
Douglas Fir Christmas Trees	Melampsora Needle Rust	8 lbs	2 lbs	Make one application in the spring when new shoot growth is 1/2 to 2 inches in length.
Shasta Fir Christmas Trees	Puccineastrum Needle Rust	8 lbs	2 lbs	Make a single application in the spring when new shoot growth is 1/2 to 2 inches in length.
Apple Pear	Anthracnose (Pezicula malicorticis) European (Nectria) Canker Fusiform Rust	8 lbs	2 to 3 lbs	Apply as a thorough coverage spray in the fall and dormant periods. DO NOT USE FRUIT FOR HUMAN CONSUMPTION.
Flowering Crab Apple Oregon Crab Apple Quince	Anthracnose (Pezicula malicorticis)	8 lbs	2 to 3 lbs	Apply as a thorough coverage spray in the fall and dormant periods. DO NOT USE FRUIT FOR HUMAN CONSUMPTION.
Sweet Cherry Wild Cherry Choke Cherry Cherry laurel Flowering Plum (non-edible only)	Witches' Broom, Leaf Curl, Plum Pockets (Taphrina spp.)	8 lbs	2 to 3 lbs	Apply as a thorough coverage spray in the dormant period prior to bud swell. DO NOT USE FRUIT FOR HUMAN CONSUMPTION.
Peach Apricot	Twig Blight (Monilinia spp.) Leaf Curl (Taphrina deformans)	8 lbs	2 to 3 lbs	Apply as a thorough coverage spray in the dormant period prior to bud swell. DO NOT USE FRUIT FOR HUMAN CONSUMPTION.
Nectarine	Leaf Curl (Taphrina deformans) Shot Hole (Stigmina carpophila)	8 lbs	2 to 3 lbs	Apply as a thorough coverage spray in the dormant period prior to bud swell. DO NOT USE FRUIT FOR HUMAN CONSUMPTION.

(1) Not for use in California.

Note: Due to the continuous development of new varieties of each of the ornamental plants and trees listed above, it is recommended that prior to the first use on a particular ornamental variety, the grower treat a small sample (6-10 plants) with the product at recommended dose to determine if there is going to be phytotoxicity, including but not limited to necrosis, leaf burn or stunting.