

APPLES - APPLE SCAB, BLACK ROT, ETC.

General Information

GENERAL USE INFORMATION

Ferbam Granuflo (76% water-dispersible granules) is a broad spectrum fungicide for the control of certain diseases in fruit trees and berries. Do not apply in late season cover sprays where unsightly residues may affect the fresh fruit finish of light-skinned apple and pear varieties. Taminco Inc. recommends the use of Thiram Granuflo or Ziram Granuflo in late-season fresh fruit sprays.

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THE LABEL MAY RESULT IN CROP INJURY, POOR DISEASE CONTROL, OR ILLEGAL RESIDUES.

IMPORTANT: When spraying, thorough coverage is necessary to provide good disease control. Make new dilutions for each spraying. Consult State Agricultural Experiment Station recommendations or State Extension Service Specialist for spray schedules for timing and frequency of applications in your area.

When tank mixing other products with Ferbam Granuflo, follow the proper sequence of adding products to the spray tank. Wettable powders or water-dispersible granules should be added to the water in the tank first, followed by flowable products, with emulsifiable concentrates added last. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Ferbam Granuflo is compatible with most commonly used insecticides and fungicides except Bordeaux mixture, lime, sulfur, fixed copper, and hydrated lime. When preparing tank mixes, user should consult spray compatibility charts or State Extension Service Specialist prior to actual use. To assure the compatibility of Ferbam Granuflo with other products, pour the products into a small container of water in the correct proportions. After thorough mixing, let stand for 5 minutes. If the combination remains mixed or can be re-mixed readily, the mixture is compatible.

APPLICATION EQUIPMENT

Aerial application is prohibited.

APPLICATION THROUGH IRRIGATION SYSTEMS

Ferbam Granuflo alone or in combination with other fungicides which are registered for application through irrigation systems, may be applied through irrigation systems. Apply this product only through center pivot, solid set, moving wheel, micro-sprinkler or drip irrigation systems. Do not apply this product through any other type or irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service Specialist, 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.

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.

OPERATING INSTRUCTIONS (SPRINKLER AND DRIP IRRIGATION SYSTEMS)

- The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended (applies to sprinkler systems).

APPLICATION INSTRUCTIONS

Ferbam Granuflo must be applied on the schedule specified in the specific crop use recommendations, not according to the irrigation schedule. With the exception of cranberries, Ferbam Granuflo has not been sufficiently tested when applied through irrigation systems to assure consistent product performance for all labeled uses. The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler or drip irrigation equipment. Users should check with State and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler or drip irrigation equipment.

- Center pivot irrigation equipment. (Use only with drive systems which provide uniform water distribution).
- Determine the size of the area to be treated.
- Determine the time required to apply 1/4 inch of water over the area to be treated when the system and injection equipment are operated at normal pressures recommended by the equipment manufacturer. Run the system at 80-95% of the manufacturer's rated capacity.
- Using water, determine the injection pump output when operated at normal line pressure.

Determine the amount of Ferbam Granuflo required to treat the area covered by the irrigation system.

- Add the required amount of Ferbam Granuflo and sufficient water to meet the injection time requirements to the solution tank.
- Maintain constant solution tank agitation during the injection period.
- Continue to operate the system until the Ferbam Granuflo solution has cleared the sprinkler head.

MICRO-SPRINKLER OR DRIP IRRIGATION SYSTEMS

GENERAL INSTRUCTIONS

- Each run of the irrigation system must be calibrated separately to determine the time it takes water to move through the system and to make sure all emitters in the system are putting out the same amount of water.
- Only pressure injection or venturi equipment are recommended.
- Figure the area to be treated in each irrigation run.
- Measure the output of each of the emitters or drip tubes closest to and farthest from the injector site.
- For calibration, substitute a concentrated detergent (such as Wisk) or a soluble fertilizer for the Ferbam Granuflo in the injector tank. The detergent will bubble as it leaves the emitters. The time period over which bubbles occur should be checked for both the closest and farthest emitters. If these times are not within two minutes of each other, adjust the dilution ratio and/or the injection rate.
- If a soluble fertilizer is used, measure the time intervals with a salt bridge. If a drip system is being calibrated, substitute soluble fertilizer for the Ferbam Granuflo in the injector and measure the time intervals with a salt bridge.

STEP-BY-STEP INSTRUCTIONS

- Before starting to calibrate, operate the system until all the emitters are putting out at equal flow rates or until the system is operating at full pressure.

- Make up an indicator solution of detergent or fertilizer, using the same ratio to be used when mixing Ferbam Granuflo.
- Set the injector to apply the indicator solution at the injection rate to be used in the actual Ferbam Granuflo.
- Attach a 5 inch length of flexible tubing over the emitter closest to the injection point, another length over the emitter farthest away. Both emitters should be monitored to determine the time intervals that the indicator solutions are observed.
- Begin injecting the indicator solution. Direct the flow from the tubes at the emitters into a small container. Begin timing when the indicator solution is first detected. Stop timing when the indicator solutions are no longer detected.
- If the period of detection of the indicator solution between the two emitters is within two minutes of each other, comparable coverage will be obtained. If it is not, make adjustments by increasing the dilution ratio, using more water per part of Ferbam Granuflo, or adjust the injector to a slower flow rate.
- Once the system is calibrated, dilute the needed amount of Ferbam Granuflo with water using a minimum of 10 parts water per 1 part Ferbam Granuflo.
- Do not begin to inject Ferbam Granuflo into the system until all emitters are producing equal flow rates or until the system is at full pressure.
- Inject the Ferbam Granuflo into the system at the end of the irrigation in 1/2 to 1 inch of irrigation water.

For Ground Boom Applications:

- nozzle height no more than 10 feet above the ground or crop canopy
- wind speed is 10 mph or less at the application site and,
- medium or coarser spray according to ASAE572 definition for standard nozzles

Limitations, Restrictions, and Exceptions

Not for use in California

Under low disease conditions, minimum label rates per application can be used

while maximum label rates and shortened spray schedules are recommended for severe or threatening disease conditions.

APPLES

DIRECTIONS FOR USE

Apply in cover sprays. Apply in late-season cover sprays for process fruit only. Where Bitter Rot and Brook's Spot are severe problems, use the maximum labeled rate. On Golden Delicious, Jonathan, Baldwin, and other varieties of apples, which are especially apt to Russet, some injury may result from the use of this type of material if used in the early season or bloom applications. The best time for use is in the cover sprays.

Do not apply in late season cover sprays where unsightly residues may affect the fresh fruit finish of light-skinned apple varieties. Taminco, Inc. recommends the use of Thiram Granuflo (except CA) or Ziram Granuflo in late-season fresh fruit sprays. When used in combination with sulfur, do not apply within 10 days to 2 weeks of an oil spray nor just prior to or during periods of excessively high temperatures.

Rate:

0.88 lbs / 100 gal: Based on dilute sprays of 400 gallons per acre.

Method

[Broadcast/Foliar Ground](#)

Rates

[field rates 0](#)

[field rates 1](#)

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Restricted Entry Interval

24 hours

Timings

[In late-season.](#)