



U.S. ENVIRONMENTAL PROTECTION AGENCY
 Office of Pesticide Programs
 Biopesticides and Pollution Prevention Division (7511P)
 1200 Pennsylvania Ave., N.W.
 Washington, D.C. 20460

EPA Reg. Number:

84059-27

Date of Issuance:

5/17/2016

NOTICE OF PESTICIDE:

Registration
 Reregistration
 (under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

MBI-203 WDG

Name and Address of Registrant (include ZIP Code):

Marrone Bio Innovations
 1540 Drew Avenue
 Davis, CA 95618

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention 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 registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA or the Act).

Registration is in no way to be construed as an endorsement or recommendation of this product by the U.S. Environmental Protection Agency (EPA). In order to protect health and the environment, the Administrator, on his or her 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 the 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.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration or registration review of your product when the EPA requires all registrants of similar products to submit such data.

Signature of Approving Official:

Seiichi Murasaki, Acting Product Manager 92
 Microbial Pesticides Branch
 Biopesticides and Pollution Prevention Division (7511P)
 Office of Pesticide Programs

Date:

5/17/2016

2. Submit storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) data as these data requirements are not satisfied. A one-year study is required to satisfy these data requirements. You have 18 months from the date of this registration to provide these data to the EPA.
3. Submit a revised manufacturing process (Guideline 885.1200) that incorporates the following:
 - a. Description of a marker compound used and how it is measured for quality control purposes.
 - b. Description of the feedstock ingredients you are using to produce the source of active ingredient for MBI-203 WDG, including what the feedstock ingredients are (with Chemical Abstracts Registry Numbers as applicable), the sources/suppliers from which you are obtaining the feedstock ingredients, the intent of the feedstock ingredients (e.g., a nitrogen source that provides 3% nitrogen), and the safety data sheets for the feedstock ingredients from the appropriate sources/suppliers. This information must not be stated in general terms (e.g., ingredients and sources/suppliers change based upon availability or cost) and must be explicit.

You have 12 months from the date of this registration to provide these data to the EPA.

4. Submit analysis of samples (Guideline 885.1400) data that confirms batches of MBI-203 WDG meet the limits established for the marker compound. You have 18 months from the date of this registration to provide these data to the EPA.
5. Make the following labeling change before you release this product for shipment:
 - Revise the EPA Registration Number to read, “EPA Reg. No. 84059-27.”
6. Submit one (1) copy of the final printed labeling for the record before you release this product for shipment.

Should you wish to add/retain a reference to your company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance Assurance.

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EPA Reg. No. 84059-27

OPP Decision No. 508314

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6. A stamped copy of the labeling is enclosed for your records. Please also note that the record for this product currently contains the following acceptable Confidential Statement of Formula (CSF):

- Basic CSF dated 12/14/2015

If you have any questions, please contact Jeannine Kausch by phone at (703) 347-8920 or via email at kausch.jeannine@epa.gov.

Enclosure: Stamped label

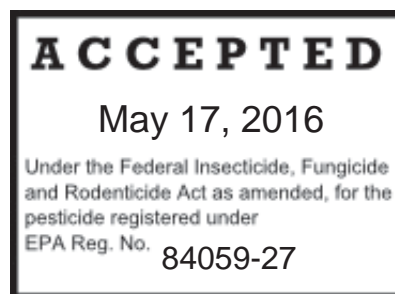
MASTER LABEL

MBI-203 WDG

Alternate Brand Names: GRANDEVO[®] WDG, GRANDEVO[®] NXT

Sublabel A: Agricultural Crop Use
Sublabel B: Greenhouse, Nursery, Turf & Professional Landscape Use
Sublabel C: Nematicide Use
Sublabel D: Home & Garden Use


EPA Registration No. 84059-ET



Sublabel A: Agricultural Crop Use

MBI-203 WDG

Alternate Brand Names: GRANDEVO® WDG, GRANDEVO® NXT

 (For Organic Production) (For Use in Organic Production) (Can be used in organic production)
[OMRI Listed™ (logo)]

Active Ingredient: *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media* 30.0%
Other Ingredients: 70.0%
Total: 100.0%

*Contains not less than 1,000 Cabbage Looper Killing Units (CLKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

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.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or when going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

EPA Reg. No.: 84059-ET

EPA Est. No.: XXXXX-XX-XXX

Net Weight: 6 lb, 25 lb, 30 lb, or 1,000 lb

Lot No: _____

Manufactured [by][for]: Marrone Bio Innovations, Inc.
1540 Drew Ave.
Davis, CA 95618 USA
1-877-664-4476; info@marronebio.com

(Grandevo® is a registered trademark of Marrone Bio Innovations, Inc.)
Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks
- protective eyewear
- A NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. (Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.)

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

Engineering Controls: 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.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY RECOMMENDATIONS

Users should:

- 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.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product is toxic to certain nontarget terrestrial arthropods. Minimize spray drift away from target area to reduce effects to nontarget insects.

This product is toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product if bees are visiting the treatment area.

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water) is:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

EXCEPTION: If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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.

Keep unprotected persons out of treated areas until sprays have dried.

PRODUCT INFORMATION

MBI-203 WDG is a biological insecticide/miticide containing cells of *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media, for use on ornamental plants, turf, edible crops, and poultry houses against the pests listed in the **APPLICATION RATES FOR SELECTED CROPS** section. MBI-203 WDG functions primarily as a stomach poison for use in the control or suppression of many foliar-feeding pests, including caterpillars, and certain

Coleoptera. MBI-203 WDG has multiple effects, including reducing fecundity and oviposition, deterring feeding and acting as a stomach poison on Homoptera and Hemiptera, such as aphids, psyllids, whiteflies, *Lygus*, mealybugs, thrips, certain fruit flies, and phytophagous mites infesting labeled crops or use sites. MBI-203 WDG can also be used for the control or suppression of soil-dwelling pests listed in the **APPLICATION RATES FOR SELECTED CROPS** section. MBI-203 WDG must be mixed with water and applied as a foliar spray with ground or aerial equipment equipped for conventional pesticide spraying, by chemigation, by soil treatment, by seed treatment or by direct spray to surfaces in poultry houses.

MBI-203 WDG can be used in the field, in hoop houses, in greenhouses, or in poultry houses for the control or suppression of any labeled pest.

GROUND AND AERIAL APPLICATIONS

Apply MBI-203 WDG in ground and aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. The amount of water needed per acre will depend upon crop development, weather, application equipment, and local experience.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

Mixing directions

Important - Do not add MBI-203 WDG to the tank mix before introducing 3/4 of the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-203 WDG. Add the desired volume of MBI-203 WDG to the mix tank and continue circulation while adding the remainder of the water. Maintain circulation while loading and spraying. Do not mix more MBI-203 WDG than is needed for immediate use. Do not let the spray mixture stand overnight in the spray tank. Use a strainer no finer than 50 mesh in conventional spray systems.

Spray volume

For conventional air and ground applications, use at least 10 gallons of total volume per acre in water-based sprays. Use a minimum of 50 gallons per acre (GPA) carrier volume for all established orchard and vine crops. For concentrated ground applications, use at least 10 gallons of carrier volume for all labeled crops.

Tank mixing

Do not combine MBI-203 WDG in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

To ensure compatibility of tank mix combinations, they must be evaluated prior to use. To determine the physical compatibility of this product with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables, and then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

AERIAL DRIFT REDUCTION INFORMATION

GENERAL: Avoiding spray drift at the application site is the responsibility of the applicator (specifically, see **SENSITIVE AREAS** section for the requirement regarding spray drift and honey bees). 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. Where states have more stringent regulations, they should be observed.

BUFFER ZONE FOR AERIAL APPLICATION: Do not apply within 40 feet of aquatic habitats (such as but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

INFORMATION ON DROPLET SIZE: Use only medium or coarser spray nozzles according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser 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 will provide sufficient coverage and control or suppression. 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).

CONTROLLING DROPLET SIZE: 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 specified pressures. For many nozzle types, lower pressure produces larger droplets. When high 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 a 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 WIDTH: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade.

APPLICATION HEIGHT: Do not make applications 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. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

SWATH ADJUSTMENT: When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the upwind 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: Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph. 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: Do not apply 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). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, blooming crops or weeds that bees are visiting, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

CHEMIGATION USE DIRECTIONS

Spray preparation

First, prepare a suspension of MBI-203 WDG in a mix tank. Fill tank with $\frac{3}{4}$ of the amount of water for the area to be treated. Start mechanical or hydraulic agitation. Add the required amount of MBI-203 WDG, and then the remaining volume of water. Then, set the system to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start system and uniformly inject the suspension of MBI-203 WDG into the irrigation water line so as to deliver the desired rate of MBI-203 WDG per acre. Inject the suspension of MBI-203 WDG with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. MBI-203 WDG is to be metered continuously for the duration of the water application.

Do not combine MBI-203 WDG with other pesticides, surfactants, adjuvants, or fertilizers for application through chemigation equipment unless prior experience has shown the combination to be physically compatible, effective and non-injurious under your conditions of use.

General Requirements -

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move, or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) 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.
- 5) 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.

Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 1) 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.
- 2) 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 flow 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.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must 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.
- 5) 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.
- 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.

Specific Requirements for Sprinkler Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline 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.

Specific Requirements for Drip (Trickle) Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline 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.

Application Instructions for All Types of Chemigation -

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues, may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

Application Instructions for Drip Chemigation -

- 1) Check to be sure that the system provides a uniform waterflow.
- 2) Irrigate crop with sufficient water to wet the root zone. Then, begin flow of the solution containing product solution from the chemical tank for a period to uniformly distribute the material. Discontinue flow of the MBI-203 WDG mixture and let the system continue to run only as necessary to purge the line with fresh water. Let the MBI-203 WDG solution remain in the root zone of the crop.

SEED TREATMENT USE DIRECTIONS

MBI-203 WDG can be applied as a seed dressing at plant or in commercial seed treatments for suppression of insect damage to corn, cotton and legumes at rates specified in the **APPLICATION RATES FOR SELECTED CROPS** section. MBI-203 WDG may be applied as a water-based slurry with other registered seed treatment insecticides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

Mixing instructions: Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-203 WDG mixtures.

MBI-203 WDG alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add MBI-203 WDG to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after MBI-203 WDG has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

MBI-203 WDG + tank-mixtures: Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations. Always allow each tank mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

Note: When using MBI-203 WDG in tank mixtures, add all products in water-soluble packaging to the tank before any other tank mix partner, including MBI-203 WDG. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using MBI-203 WDG in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the labels of the tank mix partners. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product must not be mixed with any product that prohibits such mixing.

For Pre-plant Seed Treatment: Do not use treated seed for food or feed purposes or process for oil. Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

For Commercial Seed Treatment:

This product does not contain dye. All seed treated commercially with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for humans or feed for animals. The Federal Seed Act requires that bags containing seed treated with this product shall be labeled with the following information: "This seed has been treated with *Chromobacterium subtsugae* strain PRAA4-1^T. Do not use for food, feed or oil purposes."

SOIL TREATMENT USE DIRECTIONS

MBI-203 WDG can be applied by soil drench, in-furrow spray, or soil injection to protect against certain soil-dwelling insects.

In general, MBI-203 WDG can be applied by the following methods, unless specified differently in the **APPLICATION RATES FOR SELECTED CROPS** section:

Soil Drench Applications: Apply MBI-203 WDG at a concentration of 2-6 pounds per 100 to 150 gallons of water per acre, and at a sufficient rate to thoroughly soak the growing media and root zone. Multiple drench applications can be made on a 10- to 14-day interval for insect control treatments.

Shanked-In and Injected Applications: MBI-203 WDG, at a concentration of 6 pounds per 100 to 150 gallons of water, can be shanked-in or injected into the soil alone, or with most types of liquid nutrients.

In-Furrow Applications: At planting, apply MBI-203 WDG as an in-furrow spray or as a 5-7 inch band (T-band) over an open furrow at the rate of 2 - 6 pounds per acre or 1.8-7.35 ounces per 1,000 feet of row according to the chart below. Apply MBI-203 WDG in 20 to 50 gallons of water per acre so the spray is directed over the seed furrow just before the seeds are covered.

Rate	In-Furrow and T-band Application Rates Product per 1,000 row feet (in ounces)					
	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
Ounces per 1,000 row feet	1.8 - 5.5	2.0 - 6.0	2.1 - 6.25	2.2 - 6.6	2.3 - 7.0	2.45 - 7.35

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

USE INSTRUCTIONS

MBI-203 WDG is a biological insecticide/miticide for use against listed insects and mites. Close scouting and early attention to infestations is highly recommended. For insects and mites, proper timing of application targeting new populations or recently hatched larvae and nymphs is important for optimal results. Applying MBI-203 WDG when pest populations are low is recommended.

For insects and mites, thorough coverage of infested plant parts is necessary for effective control or suppression. MBI-203 WDG does not have systemic activity. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, apply a knockdown insecticide prior to or in a tank mix with MBI-203 WDG, use the higher label rates, shorten the spray interval, and/or increase the spray volume to improve coverage.

Repeat applications at an interval sufficient to maintain control or suppression, depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control or suppress an insect population with a single application, make the treatment when egg hatch is essentially complete but when larvae or nymphs are young and before economic damage occurs.

To enhance population management, consider tank mixing with contact insecticides/miticides. Use the lower label rates of MBI-203 WDG when populations are low and when tank mixing with other insecticides/miticides. Use the higher rates of MBI-203 WDG when applied stand-alone, when populations are high or when egg numbers are high.

For hard-to-wet crops, consider using a spreader/sticker or adjuvant, which has been approved for use on the targeted crop, to enhance coverage and adhesion of MBI-203 WDG to the crop.

MBI-203 WDG has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating an entire crop, test a small portion of the crop for sensitivity.

GENERAL SPRAY CONSIDERATIONS

MBI-203 WDG performs best under certain conditions. To preserve product spray characteristics and overall efficacy, consider the following spray parameters:

Tank-Mixing

MBI-203 WDG does not have ovicidal activity. When significant insect or mite population or eggs are present, consider tank mixing with a complementary ovicidal/contact insecticide.

pH

To maintain product properties, the pH of the mixed spray solution should be between 6-8, with the most desirable level being neutral.

Water Hardness

If you know or suspect you have hard water, add ammonium sulfate (AMS) at levels of 1-2% (w/w) or 8.5 to 17 pounds per 100 gallons of water to help maintain efficacy. Add AMS together with MBI-203 WDG or add it to the water and thoroughly dissolve before adding MBI-203 WDG. Conduct a spray test to determine if your crop/variety is compatible with these AMS levels before adding MBI-203 WDG to the tank for spraying. For organic production, use an approved water conditioner to address suspected hard water.

Adjuvants/Carrier Volume

Avoid carrier volumes and/or adjuvants alone or in combinations that result in spray runoff or a drip accumulation.

Some adjuvants have been shown to increase or decrease the effectiveness of MBI-203 WDG. Use of a quality adjuvant or crop oil is highly recommended.

APPLICATION RATES FOR SELECTED CROPS

For greenhouse applications on the crops and pests listed, use 1-3 pounds of MBI-203 WDG in 100 gallons of water sprayed until just before point of runoff.

See specific application rates for each crop for additional details on greenhouse applications and for all other application types.

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF SPECIFIED INSECTS AND MITES:

Pre-harvest Interval (PHI) = 0 days

Alfalfa (Hay and Seed), Hay and Other Forage Crops

1-3 pounds of MBI-203 WDG per acre

Alfalfa webworm, alfalfa caterpillar, alfalfa and cabbage loopers, armyworms, cutworms, European skipper, and sod webworm

2-3 pounds of MBI-203 WDG per acre

Plant bugs, spittle bugs, aphids, alfalfa weevil, billbugs, chinch bug, mites (such as clover, Bermuda grass stunt, two-spotted, and winter grain), leafhoppers, and *Lygus* (such as tarnished plant bug)

Artichoke (Globe)

1-3 pounds of MBI-203 WDG per acre

Armyworms, artichoke plume moth, and loopers

2-3 pounds of MBI-203 WDG per acre

Aphids and whiteflies

Asparagus

2-3 pounds of MBI-203 WDG acre

Aphids, armyworms, asparagus beetle, cutworms, and spotted asparagus beetle

Asparagus beetle and spotted asparagus beetle: Apply when adults or larvae are seen feeding on new spears and during the fern stage when field counts or crop injury indicate damaging populations.

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

Bananas

2-3 pounds of MBI-203 WDG per acre

Banana skipper, banana rust thrips, and Hawaiian flower thrips

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

Brassica (Cole) Leafy Vegetables

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, and Rape Greens

1-3 pounds of MBI-203 WDG per acre

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, cross-striped cabbageworm, beet armyworm, armyworms, light brown apple moth, and cutworms

2-3 pounds of MBI-203 WDG per acre

Whiteflies, thrips, aphids, leafhoppers, plant bugs, mites, billbugs, and yellow-margined leaf beetle larvae

Yellow-margined leaf beetle larvae – Apply to newly hatched to 2nd instar. If adult beetles are also present, tank mix with a knockdown insecticide.

Suppression – Flea beetles, stink bugs, and bagrada bug. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Supplemental control with drip applications, where available, may be necessary on a 10- to 14-day schedule for soil insect control. Please refer to drip chemigation instructions.

Cutworms, root and seed maggots, symphylans, and wireworms

Bulb Vegetables

Leek, Garlic, Onion (Bulb and Green), and Shallot

1-3 pounds of MBI-203 WDG per acre

Loopers, omnivorous leafroller, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworms, saltmarsh caterpillar, armyworms, cutworms, cross-striped cabbageworm, *Heliothis*, European corn borer, and leek moth

2-3 pounds of MBI-203 WDG per acre

Suppression – Aphids and thrips.

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Bushberries

Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Lingonberry, and Salal

1-3 pounds of MBI-203 WDG per acre

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, and loopers

2-3 pounds of MBI-203 WDG per acre

Aphids, thrips, blueberry maggot, spotted wing drosophila, and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Caneberries

Blackberry, Loganberry, Red and Black Raspberry, and Cultivars, Varieties and/or Hybrids of These

1-3 pounds of MBI-203 WDG per acre

Beet armyworm, bertha armyworm, green fruitworm, leafrollers, loopers, western raspberry fruitworm, and armyworms

2-3 pounds of MBI-203 WDG per acre

Aphids and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Cereal Grains

Barley, Buckwheat, Oats, Pearl Millet, Proso Millet, Rye, Sorghum (Milo), Triticale, and Wheat

1-3 pounds of MBI-203 WDG per acre

Armyworms, corn earworm (headworm), southwestern corn borer, and webworms

2-3 pounds of MBI-203 WDG per acre

Aphids (including greenbug), thrips, cereal leaf beetle larvae, chinch bugs, and mites

Citrus Fruit

Grapefruit, Lemons, Limes, Oranges, and Tangerines

1-3 pounds of MBI-203 WDG per acre

Fruit tree leafroller, orangedog, citrus cutworm, and citrus leafminer

2-3 pounds of MBI-203 WDG per acre

Aphids, two-spotted spider mite, Texas citrus mite, citrus red mite, citrus rust mite, six-spotted spider mite, Asian citrus psyllid, citrus whitefly, cloudy-winged whitefly, citrus blackfly, citrus thrips, mealybugs, and glassy-winged sharpshooter

California red scale and Florida red scale – Make a minimum of two applications of MBI-203 WDG per generation, targeting the crawler stage.

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG drosophila as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

1-3 pounds of MBI-203 WDG per acre

Armyworms, European corn borer, southwestern corn borer, western bean cutworm, corn earworm, webworms, common stalk borer, and lesser cornstalk borer

2-3 pounds of MBI-203 WDG per acre

Corn leaf aphid, stink bugs, thrips, mites, chinch bugs, and corn rootworm beetles

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use an at-plant in furrow spray application in 20 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, seed corn beetle, symphylans, wireworms, and corn rootworm larvae, including northern, western, and southern corn rootworm

In-Furrow Applications: At planting, apply MBI-203 WDG as an in-furrow spray or as a 5-7 inch band (T-band) over an open furrow at the rate of 2.75 – 5.5 ounces per 1,000 feet of row according to the chart below. Apply MBI-203 WDG in 20 gallons of water per acre so the spray is directed over the seed furrow just before the seeds are covered.

Rate	In-Furrow and T-band Application Rates Pounds Product per Acre					
	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
2.75 – 5-5 Ounces per 1,000 row feet	3.0 – 6.0	2.8 – 5.6	2.6 – 5.2	2.5 – 5.0	2.4 – 4.8	2.2 – 4.5

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

Seed Treatment for Corn

For suppression of soil-dwelling pests, including root and seed maggots, corn rootworm larvae, and wireworms, apply 5 pounds of MBI-203 WDG per 100 pounds of seed in accordance with the instructions presented in the **SEED TREATMENT USE DIRECTIONS**.

Cotton

1-3 pounds of MBI-203 WDG per acre

European corn borer, cotton bollworm, tobacco budworm, loopers (soybean and cabbage), saltmarsh caterpillar, fall armyworm, and yellow-striped armyworm

2-3 pounds of MBI-203 WDG per acre

Cotton aphid, leafhoppers, thrips, cotton fleahopper, silverleaf whitefly, and mites

Suppression – Stink bugs and *Lygus*. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, and wireworms

Seed Treatment for Cotton

For suppression of soil-dwelling pests, including root and seed maggots and wireworms, apply 5 pounds of MBI-203 WDG per 50 pounds of seed in accordance with the instructions presented in the **SEED TREATMENT USE DIRECTIONS**.

Cranberry

1-3 pounds of MBI-203 WDG per acre

Armyworms, brown spanworm, cranberry fruitworm, cutworms, leafrollers, fireworms, loopers, sparganothis fruitworm, aphids, thrips, mites, and cranberry blossom weevil

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Do not apply to flooded fields.

Cucurbit Vegetables

Cucumber, Edible Gourds, Muskmelon, Cantaloupe, Pumpkin, Watermelon, and Winter and Summer Squash

1-3 pounds of MBI-203 WDG per acre

Armyworms, cabbage looper, melonworm, pickleworm, rindworm complex, corn earworm, and cutworms

2-3 pounds of MBI-203 WDG per acre

Whiteflies, aphids, thrips, and mites

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Cucumber beetle, stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Fig

1-3 pounds of MBI-203 WDG per acre

Navel orangeworm

2-3 pounds of MBI-203 WDG per acre

Aphids and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Flowers, Bedding Plants, and Ornamentals – Ground application only to non-blooming plants

1-3 pounds of MBI-203 WDG per acre or 1-3 pounds of MBI-203 WDG per 100 gallons of water

Loopers, tobacco budworm, omnivorous looper, omnivorous leafroller, diamondback moth, armyworms, ello moth, lo moth, oleander moth, and azalea caterpillar

2-3 pounds of MBI-203 WDG per acre or 2-3 pounds of MBI-203 WDG per 100 gallons of water

Whiteflies, aphids, thrips, azalea lace bug, *Lygus*, and mites

Fruiting Vegetables

Tomato, Tomatillo, Pepper, Groundcherry, Pepino, Okra, and Eggplant

1-3 pounds of MBI-203 WDG per acre

Loopers, hornworms, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworms (including beet and yellow-striped), tomato pinworm, and European corn borer

2-3 pounds of MBI-203 WDG per acre

Colorado potato beetle larvae – Apply to newly hatched to 2nd instar larvae. If adult beetles are also present, tank mix with a knockdown insecticide.

Aphids, mites, *Lygus*, whiteflies, plant bugs, psyllids, and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Pepper weevil, stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression. Use pheromone traps to time applications of MBI-203 WDG for management of pepper weevil.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Supplemental control with drip applications, where available, may be necessary on a 10- to 14-day schedule for soil insect control. Please refer to drip chemigation instructions.

Cutworms, root and seed maggots, symphylans, and wireworms

Grape, Amur River Grape, Gooseberry, Kiwifruit, Maypop and Schisandra Berry

1-3 pounds of MBI-203 WDG per acre

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, obliquebanded leafroller, grape berry moth, and light brown apple moth

2-3 pounds of MBI-203 WDG per acre

Pacific spider mite, Willamette spider mite, two-spotted spider mite, leafhoppers, mites, mealybugs, glassy-winged sharpshooter, whiteflies, and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Herbs and Spices

Angelica, Balm, Basil, Borage, Burnet, Chamomile, Catnip, Chervil, Chive, Clary, Coriander, Costmary, Cilantro, Curry, Dillweed, Horehound, Hyssop, Lavender, Lemongrass, Lovage, Marjoram, Mint, Nasturtium, Parsley (Dried), Peppermint, Rosemary, Sage, Savory (Summer and Winter), Spearmint, Sweet Bay, Tansy, Tarragon, Thyme, Wintergreen, Woodruff, and Wormwood

1-3 pounds of MBI-203 WDG per acre

Loopers, saltmarsh caterpillar, and armyworms

2-3 pounds of MBI-203 WDG per acre

Aphids, thrips, whiteflies, and mites

Hops and Dried Cones

1-3 pounds of MBI-203 WDG per acre

Armyworms and loopers

2-3 pounds of MBI-203 WDG per acre

Hops aphid, thrips, whiteflies, and mites

Leafy Vegetables

Arugula, Celery, Corn Salad, Cress, Dandelion, Dock, Edible-Leaved Chrysanthemum, Endive, Fennel, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, and Swiss Chard

1-3 pounds of MBI-203 WDG per acre

Cabbage looper, diamondback moth, armyworms, loopers, cutworm species, green cloverworm, and tobacco budworm

2-3 pounds of MBI-203 WDG per acre

Aphids, whiteflies, thrips, psyllids, and mites

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Leaves of Root and Tuber Vegetables

Beets and Turnips

1-3 pounds of MBI-203 WDG per acre

Cabbage looper, diamondback moth, and armyworms

2-3 pounds of MBI-203 WDG per acre

Aphids, whiteflies, and psyllids,

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

Legume Vegetables (Succulent or Dried) and Legume Grain Crops

Adzuki Bean, Black-Eyed Pea, Beans, Chickpea, Cowpea, Crowder Pea, Edible-Pod Pea, English Pea, Fava Bean, Field Bean, Field Pea, Garbanzo Bean, Garden Pea, Green Pea, Kidney Bean, Lentils, Lima Bean, Lupins, Mung Bean, Navy Bean, Peas, Pigeon Pea,

Pinto Bean, Runner Bean, Snap Bean, Snow Pea, Soybean, Sugar Snap Pea, Tepary Bean, Wax Bean, and Yardlong Bean

1-3 pounds of MBI-203 WDG per acre

Armyworms, corn earworm, green cloverworm, loopers, podworms, cabbage looper, soybean looper, and velvetbean caterpillar

2-3 pounds of MBI-203 WDG per acre

Aphids, mites, leafhoppers, whiteflies, and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Bean leaf beetle, Mexican bean beetle, stink bugs, kudzu bug, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Seed Treatment for Legume Vegetables and Legume Grain Crops

For suppression of soil-dwelling pests, including cutworms, root and seed maggots, symphylans, and wireworms, apply 2 pounds of MBI-203 WDG per 100 pounds of seed in accordance with the instructions presented in the **SEED TREATMENT USE DIRECTIONS**.

Oilseed Crops

Canola, Safflower, and Sunflower (including Sunflower Grown for Seed)

1-3 pounds of MBI-203 WDG per acre

Armyworms, diamondback moth, loopers, saltmarsh caterpillar, *Heliothis*, and headworms

2-3 pounds of MBI-203 WDG per acre

Aphids, thrips, whiteflies, and mites

Suppression – Kudzu bug. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Peanut

1-3 pounds of MBI-203 WDG per acre

Armyworms, cabbage looper, corn earworm, soybean looper, green cloverworm, European corn borer, podworms, red-necked peanut worm, saltmarsh caterpillar, and velvetbean caterpillar

2-3 pounds of MBI-203 WDG per acre

Aphids, thrips, whiteflies, and mites

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Burrowing bug, cutworms, root and seed maggots, and wireworms

Pineapple

1-3 pounds of MBI-203 WDG per acre

Gummosis-Batrachedra Comosae (Hodges) and *Thecla-Thecla Basilides* (Geyer)(fruit borer)

Pome Fruit*

Apples, Crabapple, Loquat, Mayhaw, Pears, and Quince

1-3 pounds of MBI-203 WDG per acre

Leafrollers (including fruittree, obliquebanded, red-banded, and variegated), codling moth, oriental fruit moth, tufted apple budmoth, and light brown apple moth

Application timing: Optimal timing for leafrollers, codling moth, and oriental fruit moth can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. MBI-203 WDG can be used to supplement mating disruption programs.

2-3 pounds of MBI-203 WDG per acre

Aphids, mealybugs, pear psylla, thrips, whiteflies, and mites

Rosy apple aphid – Make an initial application at the pink stage of bloom. Additional applications may be necessary to maintain control.

San Jose scale – Make a minimum of two applications of MBI-203 WDG per generation targeting the crawler stage.

Spotted wing drosophila, apple maggot, and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

*Some sensitive pome fruit varieties have exhibited fruit spotting as a result of application. Spray a test strip to confirm your variety is not susceptible to spotting before spraying the entire orchard. Avoid carrier volumes and/or adjuvants alone or in combinations that result in spray runoff or a drip accumulation on fruit bottoms.

Pomegranate

1-3 pounds of MBI-203 WDG per acre

Armyworms, cankerworms, codling moth, cutworms, filbert leafroller, fruittree leafroller, gypsy moth, obliquebanded leafroller, oriental fruit moth, red-banded leafroller, tufted apple budmoth, twig borer, variegated leafroller, and walnut caterpillar

2-3 pounds of MBI-203 WDG per acre

European red mite, McDaniel spider mite, Pacific spider mite, and two-spotted red mite

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, leaf-footed plant bugs, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Poultry Houses

1 pound of MBI-203 WDG per 12 gallons of water

Flies and poultry litter beetle

Treat only when litter is totally replaced and when birds are not present. Apply to walls, ceiling and floors of the poultry house. Replace litter and reintroduce birds to the poultry house only after the surfaces are totally dry.

Root and Tuber Vegetables

Black Salsify, Carrot, Cassava, Celeriac, Chayote Root, Chicory, Chinese Artichoke, Edible Burdock, Garden Beet, Ginger, Ginseng, Horseradish, Jerusalem Artichoke, Oriental Radish, Parsnip, Potatoes, Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Sugar Beet, Sweet Potatoes, Tumeric, Turnip, Turnip-Rooted Chervil, Turnip-Rooted Parsley, and Yams

1-3 pounds of MBI-203 WDG per acre

Armyworms, artichoke plume moth, European corn borer, and loopers

2-3 pounds of MBI-203 WDG per acre

Aphids, potato aphid, potato leafhopper, psyllids (including potato psyllid), and whiteflies

3 pounds of MBI-203 WDG per acre

Suppression - Colorado potato beetle larvae – Apply to newly hatched to 2nd instar larvae. If adult beetles are also present, tank mix with a knockdown insecticide. Heavy infestations may

require repeat application. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Shade and Ornamental Trees

1-3 pounds of MBI-203 WDG per acre or 1-3 pounds of MBI-203 WDG per 100 gallons of water

Blackheaded budworm, California oakworm, Douglas fir tussock moth, elm spanworm, fruittree leafroller, greenstriped mapleworm, hemlock looper, jack pine budworm, mimosa webworm, pine butterfly, saddleback caterpillar, saddle prominent caterpillar, spruce budworm, tent caterpillar, western tussock moth, and gypsy moth

2-3 pounds of MBI-203 WDG per acre or 2-3 pounds of MBI-203 WDG per 100 gallons of water

Aphids, lace bugs, mites, whiteflies, and wooly adelgid

Elm leaf beetle, imported willow leaf beetle, and viburnum beetle – Apply to newly hatched to 2nd instar larvae. If adult beetles are also present, tank mix with a knockdown insecticide. Heavy infestations may require repeat applications.

Stone Fruits

Apricots, Cherry, Nectarine, Peach, Plum, and Prune

1-3 pounds of MBI-203 WDG per acre

Green fruitworm, leafrollers (including obliquebanded, fruittree, pandemic, red-banded, and variegated), oriental fruit moth, redhumped caterpillar, tent caterpillar, and peach twig borer

Application timing: Optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. MBI-203 WDG can be used to supplement mating disruption programs.

2-3 pounds of MBI-203 WDG per acre

Aphids, mealybugs, thrips, whiteflies, and mites

San Jose scale and white peach scale - Make a minimum of two applications of MBI-203 WDG per generation targeting the crawler stage.

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Strawberry

1-3 pounds of MBI-203 WDG per acre

Armyworms, leafrollers, and cutworms

2-3 pounds of MBI-203 WDG per acre

Aphids, *Lygus*, mites, thrips, and whiteflies

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

For foliar applications, exceeding water volumes of 100 gallons per acre (GPA) may result in reduced product efficacy.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Sugar Cane

2 - 6 pounds of MBI-203 WDG per acre

White grubs and wireworms

Apply 2 - 6 pounds of MBI-203 WDG per acre or 1.8 – 7.35 ounces of MBI-203 WDG per 1,000 row feet in a 5 - 7 inch band (T-band) directly on the seed pieces and surrounding soil in the open furrows immediately before covering with soil.

For grubs, time applications to occur shortly after egg hatch when grubs are 1st or 2nd instar.

Tobacco

1-3 pounds of MBI-203 WDG per acre

Hornworms, tobacco budworm, and loopers

2-3 pounds of MBI-203 WDG per acre

Aphids, thrips, whiteflies, and mites

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Tree Farms and Plantations

Conifers, Including Christmas Trees and Deciduous Trees

1-3 pounds of MBI-203 WDG per acre or 1-3 pounds of MBI-203 WDG per 100 gallons of water

Bagworm, fall webworm, gypsy moth, hemlock looper, jack pine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, and tussock moths

2-3 pounds of MBI-203 WDG per acre or 2-3 pounds of MBI-203 WDG per 100 gallons of water

Cottonwood leaf beetle - Apply to newly hatched to 2nd instar larvae. If adult beetles are also present, tank mix with a knockdown insecticide. Heavy infestations may require repeat applications.

Tree Nuts

Almonds, Cashew, Chestnut, Filbert (Hazelnut), Macadamia Nut, Pecan, Pistachios, and Walnut

1-3 pounds of MBI-203 WDG per acre

Fall webworm, filbert worm, navel orange worm, obliquebanded leafroller, peach twig borer, pecan nut casebearer, and redhumped caterpillar

2-3 pounds of MBI-203 WDG per acre

Aphids, codling moth, mealybugs, whiteflies, mites, and walnut husk fly

San Jose scale and walnut scale - Make a minimum of two applications of MBI-203 WDG per generation targeting the crawler stage.

3 pounds of MBI-203 WDG per acre

Pecan weevil

Tropical and Subtropical Fruit

Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), and White Sapote

1-3 pounds of MBI-203 WDG per acre

Avocado leafroller, citrus peelminer, cutworms, fruittree leafroller, omnivorous leafroller, orange tortrix, and western tussock moth

2-3 pounds of MBI-203 WDG per acre

Aphids, thrips, and whiteflies

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Turf, Including Grass Grown for Seed, Lawns and Recreational Turf

2-4 pounds of MBI-203 WDG per acre or 0.75 – 1.5 ounces of MBI-203 WDG per 1,000 sq. ft.

Armyworms, cutworms, and sod webworms

6 pounds of MBI-203 WDG per acre or 2.25 ounces of MBI-203 WDG per 1,000 sq. ft.

Chinch bug and leafhoppers

2-4 pounds of MBI-203 WDG per 1/5 acre (10-20 pounds of MBI-203 WDG per acre*) or 4-8 ounces of MBI-203 WDG per 1,000 sq. ft.

White grubs (such as larvae of, black turfgrass ataenius, European chafer, green June beetle, *Aphodius* spp., May or June beetles (*Phyllophaga* spp.), northern and southern masked chafers (*Cyclocephala* spp.), and sugarcane grub (*Tomarus* spp.)). Apply MBI-203 WDG soon after egg hatch when grubs are 1st or 2nd instar.

Mix specified dosage of MBI-203 WDG in sufficient water to provide thorough coverage of turf. For control of white grubs and annual bluegrass weevils, a minimum of 100 gallons of water per acre or 300 fluid ounces of water per 1,000 square feet is recommended. For best control, thoroughly irrigate following application to moisten the top inch of soil. There should be no more

than ½ inch of thatch present at the time of application. Under dry conditions where thatch is present, prewatering is recommended prior to application for grub or weevil control.

For control of armyworms, cutworms, webworms, chinch bugs or leafhoppers, do not irrigate following application.

*Please confirm your MBI-203 WDG package size to ensure it accommodates the specified rate before following.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in original container in a cool, dry place.

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

Container Handling: Nonrefillable container. Do not reuse or refill this container.

Completely empty bag into application equipment. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. (For instances where state and local ordinances do allow burning): If burned, stay out of smoke.

WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. To the extent consistent with applicable law, the user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Label date:

Made in the U.S.A.


OPTIONAL LABEL CLAIMS:

- Biological Insecticide
- Dry flowable
- [OMRI Listed® (logo)]
- NOP logo
- Bioinsecticide
- Biomiticide
- Biological pesticide
- Biological miticide
- Biological seed treatment
- Made in Michigan logo

Sublabel B: Greenhouse, Nursery, Turf & Professional Landscape Use

MBI-203 WDG

Alternate Brand Names: GRANDEVO® WDG, GRANDEVO® NXT

 (For Organic Production) (For Use in Organic Production) (Can be used in organic production)
[OMRI Listed™ (logo)]

Active Ingredient: *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media* 30.0%
Other Ingredients: 70.0%
Total: 100.0%

*Contains not less than 1,000 Cabbage Looper Killing Units (CLKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

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.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or when going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

EPA Reg. No.: 84059-ET

EPA Est. No.: XXXXX-XX-XXX

Net Weight: 6 lb, 25 lb, 30 lb, or 1,000 lb

Lot No: _____

Manufactured [by][for]: Marrone Bio Innovations, Inc.
1540 Drew Ave.
Davis, CA 95618 USA
1-877-664-4476; info@marronebio.com

(Grandevo® is a registered trademark of Marrone Bio Innovations, Inc.)
Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks
- protective eyewear
- A NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. (Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.)

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

Engineering Controls: When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY RECOMMENDATIONS

Users should:

- 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.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product is toxic to certain nontarget terrestrial arthropods. Minimize spray drift away from target area to reduce effects to nontarget insects.

This product is toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product if bees are visiting the treatment area.

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water) is:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

EXCEPTION: If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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.

Keep unprotected persons out of treated areas until sprays have dried.

PRODUCT INFORMATION

MBI-203 WDG is a biological insecticide/miticide containing cells of *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media, for use on ornamental plants, turf and edible crops against the pests listed in the **APPLICATION RATES FOR SELECTED CROPS** section. MBI-203 WDG functions primarily as a stomach poison for use in the control or suppression of many foliar-feeding pests, including caterpillars, and certain coleoptera. MBI-203 WDG has multiple effects, including reducing fecundity and oviposition, deterring feeding

and acting as a stomach poison on Homoptera and Hemiptera, such as aphids, psyllids, whiteflies, *Lygus* and mealybugs, and on thrips and phytophagous mites infesting labeled crops or use sites. MBI-203 WDG must be mixed with water.

GROUND APPLICATIONS

Apply MBI-203 WDG in ground equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. The amount of water needed per acre will depend upon crop development, weather, application equipment, and local experience.

For hand-held or backpack sprayer applicators, mix MBI-203 WDG at the rate of 1-3 tablespoons per 1 gallon of water to approximate 1-3 pounds of MBI-203 WDG per 100 gallons of water.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

Mixing directions

Important - Do not add MBI-203 WDG to the tank mix before introducing 3/4 of the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding MBI-203 WDG. Add the desired volume of MBI-203 WDG to the mix tank and continue circulation while adding the remainder of the water. Maintain circulation while loading and spraying. Do not mix more MBI-203 WDG than is needed for immediate use. Do not let the spray mixture stand overnight in the spray tank. Use a strainer no finer than 50 mesh in conventional spray systems.

Spray volume

For conventional ground applications, use at least 10 gallons of total volume per acre in water-based sprays.

Tank mixing

Do not combine MBI-203 WDG in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

To ensure compatibility of tank mix combinations, they must be evaluated prior to use. To determine the physical compatibility of this product with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables, and then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

CHEMIGATION USE DIRECTIONS

Spray preparation

First, prepare a suspension of MBI-203 WDG in a mix tank. Fill tank to 3/4 of the amount of water for the area to be treated. Start mechanical or hydraulic agitation. Add the required amount of MBI-203 WDG, and then the remaining volume of water. Then, set the system to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start system and uniformly inject the suspension of MBI-203 WDG into the irrigation water line so as to deliver the desired rate of

MBI-203 WDG per acre. Inject the suspension of MBI-203 WDG with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. MBI-203 WDG is to be metered continuously for the duration of the water application.

Do not combine MBI-203 WDG with other pesticides, surfactants, adjuvants, or fertilizers for application through chemigation equipment unless prior experience has shown the combination to be physically compatible, effective and non-injurious under your conditions of use.

General Requirements -

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move, or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) 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.
- 5) 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.

Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 1) 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.
- 2) 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 flow 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.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must 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.
- 5) 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.
- 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.

Specific Requirements for Sprinkler Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline 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.

Specific Requirements for Drip (Trickle) Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline 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.

Application Instructions for All Types of Chemigation -

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues, may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

Application Instructions for Drip Chemigation -

- 1) Check to be sure that the system provides a uniform waterflow.
- 2) Irrigate crop with sufficient water to wet the root zone. Then, begin flow of the solution containing product solution from the chemical tank for a period to uniformly distribute the

material. Discontinue flow of the MBI-203 WDG mixture and let the system continue to run only as necessary to purge the line with fresh water. Let the MBI-203 WDG solution remain in the root zone of the crop.

SOIL TREATMENT USE DIRECTIONS

MBI-203 WDG can be applied by soil drench, or soil injection to protect against certain soil-dwelling insects.

In general, MBI-203 WDG can be applied by the following methods, unless specified differently in the **APPLICATION RATES FOR SELECTED CROPS** section:

Soil Drench Applications: Apply MBI-203 WDG at a concentration of 2-6 pounds per 100 to 150 gallons of water per acre, and at a sufficient rate to thoroughly soak the growing media and root zone. Multiple drench applications can be made on a 10- to 14-day interval for insect control treatments.

Shanked-In and Injected Applications: MBI-203 WDG, at a concentration of 2-6 pounds per 100 to 150 gallons of water per acre, can be shanked-in or injected into the soil alone, or with most types of liquid nutrients.

USE INSTRUCTIONS

MBI-203 WDG is a biological insecticide/miticide for use against listed insects and mites. Close scouting and early attention to infestations is highly recommended. For insects and mites, proper timing of application targeting new populations or recently hatched larvae and nymphs is important for optimal results. Applying MBI-203 WDG when pest populations are low is recommended.

For insects and mites, thorough coverage of infested plant parts is necessary for effective control or suppression. MBI-203 WDG does not have systemic activity. For some crops, directed drop nozzles by ground machine are required.

Under heavy pest populations, apply a knockdown insecticide prior to or in a tank mix with MBI-203 WDG, use the higher label rates, shorten the spray interval, and/or increase the spray volume to improve coverage.

Repeat applications at an interval sufficient to maintain control or suppression, depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control or suppress an insect population with a single application, make the treatment when egg hatch is essentially complete but when larvae or nymphs are young and before economic damage occurs.

To enhance insect population management, consider tank mixing with contact insecticides/miticides. Use the lower label rates of MBI-203 WDG when populations are low and when tank mixing with other insecticides/miticides. Use the higher rates of MBI-203 WDG when applied stand-alone, when populations are high or when egg numbers are high.

For hard-to-wet crops, consider using a spreader/sticker or adjuvant, which has been approved for use on the targeted crops, to enhance coverage and adhesion of MBI-203 WDG to the crop.

MBI-203 WDG has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating an entire crop, test a small portion of the crop for sensitivity.

GENERAL SPRAY CONSIDERATIONS

MBI-203 WDG performs best under certain conditions. To preserve product spray characteristics and overall efficacy, consider the following spray parameters:

Tank-Mixing

MBI-203 WDG does not have ovicidal activity. When significant insect or mite population or eggs are present, consider tank mixing with a complementary ovicidal/contact insecticide.

pH

To maintain product properties, the pH of the mixed spray solution should be between 6-8, with the most desirable level being neutral.

Water Hardness

If you know or suspect you have hard water, add ammonium sulfate (AMS) at levels of 1-2% (w/w) or 8.5 to 17 pounds per 100 gallons of water to help maintain efficacy. Add AMS together with MBI-203 WDG or add it to the water and thoroughly dissolve before adding MBI-203 WDG. Conduct a spray test to determine if your crop/variety is compatible with these AMS levels before adding MBI-203 WDG to the tank for spraying. For organic production, use an approved water conditioner to address suspected hard water.

Adjuvants/Carrier Volume

Avoid carrier volumes and/or adjuvants alone or in combinations that result in spray runoff or a drip accumulation.

Some adjuvants have been shown to increase or decrease the effectiveness of MBI-203 WDG. Use of a quality adjuvant or crop oil is highly recommended.

APPLICATION RATES FOR SELECTED CROPS

For greenhouse applications on the crops and pests listed, use 1-3 pounds of MBI-203 WDG in 100 gallons of water sprayed until just before the point of runoff.

See specific application rates for each crop for additional details on greenhouse applications and for all other application types.

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF SPECIFIED INSECTS AND MITES:

Artichoke (Globe)

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Armyworms, artichoke plume moth, and loopers

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids and whiteflies

Asparagus

2-3 pounds of MBI-203 WDG acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, armyworms, asparagus beetle, cutworms, and spotted asparagus beetle

Asparagus beetle and spotted asparagus beetle – Apply when adults or larvae are seen feeding on new spears and during the fern stage when counts or crop injury indicate damaging populations.

Suppression only – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

Bananas

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Banana skipper, banana rust thrips, and Hawaiian flower thrips

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

Brassica (Cole) Leafy Vegetables

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, and Rape Greens

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Diamondback moth, cabbage looper, imported cabbageworm, cabbage webworm, cross-striped cabbageworm, beet armyworm, armyworms, light brown apple moth, and cutworms

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Whiteflies, thrips, aphids, leafhoppers, plant bugs, mites, billbugs, and yellow-margined leaf beetle larvae

Yellow-margined leaf beetle larvae – Apply to newly hatched to 2nd instar. If adult beetles are also present, tank mix with a knockdown insecticide.

Suppression – Flea beetles, stink bugs, and bagrada bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Supplemental control with drip applications, where available, may be necessary on a 10– to 14-day schedule for soil insect control. Please refer to drip chemigation instructions.

Cutworms, root and seed maggots, symphylans, and wireworms

Bulb Vegetables**Leek, Garlic, Onion (Bulb and Green), and Shallot****1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)**

Loopers, omnivorous leafroller, hornworm, imported cabbageworm, diamondback moth, green cloverworm, webworms, saltmarsh caterpillar, armyworms, cutworms, cross-striped cabbageworm, Heliothis, European corn borer, leek moth

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

(suppression of) aphids, thrips - (suppression)

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Bushberries**Blueberry, Currant, Gooseberry, Huckleberry, Elderberry, Juneberry, Lingonberry, and Salal****1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)**

Armyworms, cherry fruitworm, cranberry fruitworm, fireworms, leafrollers, and loopers

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids and thrips

Blueberry maggot, spotted wing drosophila, and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During

periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Caneberries

Blackberry, Loganberry, Red and Black Raspberry, and Cultivars, Varieties and/or Hybrids of These

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Beet armyworm, bertha armyworm, green fruitworm, leafrollers, loopers, western raspberry fruitworm, and armyworms

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids and thrips

Spotted wing drosophila and fruit flies – Begin applications soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Citrus Fruit

Grapefruit, Lemons, Limes, Oranges, and Tangerines

1-3 pounds of MBI-203 WDG per acre

Fruittree leafroller, orangedog, citrus cutworm, and citrus leafminer

2-3 pounds of MBI-203 WDG per acre

Aphids, two-spotted spider mite, Texas citrus mite, citrus red mite, citrus rust mite, six-spotted spider mite, Asian citrus psyllid, citrus whitefly, cloudy-winged whitefly, citrus blackfly, citrus thrips, mealybugs, and glassy-winged sharpshooter

California red scale and Florida red scale – Make a minimum of two applications of MBI-203 WDG per generation targeting the crawler stage.

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of

adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Cucurbit Vegetables

Cucumber, Edible Gourds, Muskmelon, Cantaloupe, Pumpkin, Watermelon, and Winter and Summer Squash

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Armyworms, cabbage looper, melonworm, pickleworm, rindworm complex, corn earworm, and cutworms

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Whiteflies, aphids, thrips, and mites

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Cucumber beetle, stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Fig

1-3 pounds of MBI-203 WDG per acre

Navel orangeworm

2-3 pounds of MBI-203 WDG per acre

Aphids and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of

adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Flowers, Bedding Plants, and Ornamentals – Ground application only to non-blooming plants

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet) or 1-3 pounds of MBI-203 WDG per 100 gallons of water

Loopers, tobacco budworm, omnivorous looper, omnivorous leafroller, diamondback moth, armyworms, ello moth, lo moth, oleander moth, and azalea caterpillar

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet) or 2-3 pounds of MBI-203 WDG per 100 gallons of water

Whiteflies, aphids, thrips, azalea lace bug, *Lygus*, mites, and flea beetles

Fruiting Vegetables

Tomato, Tomatillo, Pepper, Groundcherry, Pepino, Okra, and Eggplant

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Loopers, hornworms, tomato fruitworm, variegated cutworm, saltmarsh caterpillar, armyworms (including beet and yellow-striped), tomato pinworm, and European corn borer

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Colorado potato beetle larvae – Apply to newly hatched to 2nd instar larvae. If adult beetles are also present, tank mix with a knockdown insecticide.

Aphids, mites, *Lygus*, whiteflies, plant bugs, psyllids, and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Pepper weevil, stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression. Use pheromone traps to time applications of MBI-203 WDG for management of pepper weevil.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Supplemental control with drip applications, where available, may be necessary on a 10- to 14-day schedule for soil insect control. Please refer to drip chemigation instructions.

Cutworms, root and seed maggots, symphylans, and wireworms

Grape, Amur River Grape, Gooseberry, Kiwifruit, Maypop and Schisandra Berry

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Grape leaf skeletonizer, grape leafroller, omnivorous leafroller, orange tortrix, obliquebanded leafroller, grape berry moth, and light brown apple moth

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Pacific spider mite, Willamette spider mite, two-spotted spider mite, leafhoppers, mites, mealybugs, glassy-winged sharpshooter, whiteflies, and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Pepper weevil, stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Herbs and Spices

Angelica, Balm, Basil, Borage, Burnet, Chamomile, Catnip, Chervil, Chive, Clary, Coriander, Costmary, Cilantro, Curry, Dillweed, Horehound, Hyssop, Lavender, Lemongrass, Lovage, Marjoram, Mint, Nasturtium, Parsley (Dried), Peppermint, Rosemary, Sage, Savory (Summer and Winter), Spearmint, Sweet Bay, Tansy, Tarragon, Thyme, Wintergreen, Woodruff, and Wormwood

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Loopers, saltmarsh caterpillar, and armyworms

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, thrips, whiteflies, and mites

Hops and Dried Cones

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Armyworms and loopers

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Hops aphid, thrips, whiteflies, and mites

Leafy Vegetables

Arugula, Celery, Corn Salad, Cress, Dandelion, Dock, Edible-Leaved Chrysanthemum, Endive, Fennel, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, and Swiss Chard

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Cabbage looper, diamondback moth, armyworms, loopers, cutworm species, green cloverworm, and tobacco budworm

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, whiteflies, thrips, psyllids, and mites

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for improved control.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Leaves of Root and Tuber Vegetables

Beets and Turnips

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Cabbage looper, diamondback moth, and armyworms

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, whiteflies, and psyllids

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for improved control.

Legume Vegetables (Succulent or Dried) and Legume Grain Crops

Adzuki Bean, Black-eyed Pea, Beans, Chickpea, Cowpea, Crowder Pea, Edible-Pod Pea, English Pea, Fava Bean, Field Bean, Field Pea, Garbanzo Bean, Garden Pea, Green Pea, Kidney Bean, Lentils, Lima Bean, Lupins, Mung Bean, Navy Bean, Peas, Pigeon Pea, Pinto Bean, Runner Bean, Snap Bean, Snow Pea, Soybean, Sugar Snap Pea, Tepary Bean, Wax Bean, and Yardlong Bean

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Armyworms, corn earworm, green cloverworm, loopers, podworms, cabbage looper, soybean looper, and velvetbean caterpillar

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, mites, leafhoppers, whiteflies, and thrips

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Bean leaf beetle, Mexican bean beetle, stink bugs, kudzu bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Pineapple

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Gummosis-Batrachedra Comosae (Hodges), *Thecla-Thecla Basilides* (Geyer)(fruit borer)

Pome Fruit*

Apples, Crabapple, Loquat, Mayhaw, Pears, and Quince

1-3 pounds of MBI-203 WDG per acre

Leafrollers (including fruittree, obliquebanded, red-banded, and variegated), codling moth, oriental fruit moth, tufted apple budmoth, and light brown apple moth

Application timing: Optimal timing for leafrollers, codling moth, and oriental fruit moth can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. MBI-203 WDG can be used to supplement mating disruption programs.

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, mealybugs, pear psylla, thrips, whiteflies, and mites

Rosy apple aphid – Make an initial application at the pink stage of bloom. Additional applications may be necessary to maintain control.

San Jose scale – Make a minimum of two applications per generation targeting the crawler stage.

Spotted wing drosophila, apple maggot, and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

*Some sensitive pome fruit varieties have exhibited fruit spotting as a result of application. Spray a test strip to confirm your variety is not susceptible to spotting before spraying the entire orchard. Avoid carrier volumes and/or adjuvants alone or in combinations that result in spray runoff or a drip accumulation on fruit bottoms.

Pomegranate

1-3 pounds of MBI-203 WDG per acre

Armyworms, cankerworms, codling moth, cutworms, filbert leafroller, fruittree leafroller, gypsy moth, obliquebanded leafroller, oriental fruit moth, red-banded leafroller, tufted apple budmoth, twig borer, variegated leafroller, and walnut caterpillar

2-3 pounds of MBI-203 WDG per acre

European red mite, McDaniel spider mite, Pacific spider mite, and two-spotted red mite

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, leaf footed plant bugs, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Root and Tuber Vegetables

Black Salsify, Carrot, Cassava, Celeriac, Chayote Root, Chicory, Chinese Artichoke, Edible Burdock, Garden Beet, Ginger, Ginseng, Horseradish, Jerusalem Artichoke, Oriental Radish, Parsnip, Potatoes, Radish, Rutabaga, Salsify, Skirret, Spanish Salsify,

Sugar Beet, Sweet Potatoes, Tumeric, Turnip, Turnip-Rooted Chervil, Turnip-Rooted Parsley, and Yams

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Armyworms, artichoke plume moth, European corn borer, and loopers

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, potato aphid, potato leafhopper, psyllids, and whiteflies

Suppression - Colorado potato beetle larvae – Apply to newly hatched to 2nd instar larvae. If adult beetles are also present, tank mix with a knockdown insecticide. Heavy infestations may require repeat application. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Suppression – Stink bugs. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression of stink bugs.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Stone Fruits

Apricots, Cherry, Nectarine, Peach, Plum, and Prune

1-3 pounds of MBI-203 WDG per acre

Green fruitworm, leafrollers (including obliquebanded, fruittree, pandemic, red-banded, and variegated), oriental fruit moth, redhumped caterpillar, tent caterpillar, and peach twig borer

Application timing: Optimal timing for peach twig borer and leafrollers can vary between species and geographic locations. Monitor moth flights with pheromone traps and scout regularly to determine larval populations. MBI-203 WDG can be used to supplement mating disruption programs.

2-3 pounds of MBI-203 WDG per acre

Aphids, cherry fruit fly, mealybugs, thrips, whiteflies, and mites

San Jose scale and white peach scale – Make a minimum of two applications per generation targeting the crawler stage.

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Strawberry

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Armyworms, leafrollers, and cutworms

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, Lygus, mites, thrips, and whiteflies

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetles. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

For foliar applications, exceeding water volumes of 100 gallons per acre (GPA) may result in reduced product efficacy.

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Tobacco

1-3 pounds of MBI-203 WDG per acre (1/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Hornworms, tobacco budworm, and loopers

2-3 pounds of MBI-203 WDG per acre (2/3-1 ounces of MBI-203 WDG per 1,000 square feet)

Aphids, thrips, whiteflies, and mites

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of soil insects, use a pre-plant or at-plant drench application in 100 to 150 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Cutworms, root and seed maggots, symphylans, and wireworms

Tree Farms and Plantations

Conifers, Including Christmas Trees and Deciduous Trees

1-3 pounds of MBI-203 WDG per acre or 1-3 pounds of MBI-203 WDG per 100 gallons of water

Bagworm, fall webworm, gypsy moth, hemlock looper, jack pine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, and tussock moths

2-3 pounds of MBI-203 WDG per acre or 2-3 pounds of MBI-203 WDG per 100 gallons of water

Flea beetle

European elm flea weevil – Target overwintering adults in May and June prior to and immediately after oviposition to prevent larvae from entering and leaf mining within foliage.

Cottonwood leaf beetle - Apply to newly hatched to 2nd instar larvae. If adult beetles are also present, tank mix with a knockdown insecticide. Heavy infestations may require repeat applications.

Tree Nuts

Almonds, Cashew, Chestnut, Filbert (Hazelnut), Macadamia Nut, Pecan, Pistachios, and Walnut

1-3 pounds of MBI-203 WDG per acre

Fall webworm, filbert worm, hickory shuckworm, navel orange worm, obliquebanded leafroller, peach twig borer, pecan nut casebearer, and redhumped caterpillar

2-3 pounds of MBI-203 WDG per acre

Aphids, codling moth, mealybugs, whiteflies, mites, and walnut husk fly

San Jose and walnut scale – Make a minimum of two applications per generation targeting the crawler scale.

3 pounds of MBI-203 WDG per acre

Pecan weevil

Tropical and Subtropical Fruit

Acerola, Atemoya, Avocado, Biriba, Black Sapote, Canistel, Cherimoya, Custard Apple, Feijoa, Guava, Ilama, Jaboticaba, Kiwi, Longan, Lychee, Mamey Sapote, Mango, Papaya, Passionfruit, Pulasan, Rambutan, Sapodilla, Soursop, Spanish Lime, Star Apple, Starfruit, Sugar Apple, Ti Palm Leaves, Wax Jambu (Wax Apple), and White Sapote

1-3 pounds of MBI-203 WDG per acre

Avocado leafroller, citrus peelminer, cutworms, fruittree leafroller, omnivorous leafroller, orange tortrix, and western tussock moth

2-3 pounds of MBI-203 WDG per acre

Aphids, thrips, and whiteflies

Spotted wing drosophila and fruit flies – Begin applications as soon as adult flies are active and continue until adult activity is no longer present. Use MBI-203 WDG as part of an integrated management program for control of spotted wing drosophila that includes tank mixes and rotation with other products labeled for control of spotted wing drosophila. During periods of adult fly activity, make applications on no more than a 7-day interval and more frequently if necessary to maintain control.

Suppression – Stink bugs, Japanese beetles, and flea beetle. Tank mix MBI-203 WDG with a contact insecticide for control or improved suppression.

Crop	Target Insect	Application Method	Product Use Rate	Application Instructions
<p>Ornamentals</p> <p>Herbaceous Ornamentals Flowering Plants and Foliage Plants</p> <p>Woody Ornamentals Broadleaves, Shrubs and Trees Conifers, Citrus Fruit Trees, Nut Trees, Pome Fruit Trees, and Stone Fruit Trees</p>	<p>Loopers, tobacco budworm, omnivorous looper, omnivorous leafroller, diamondback moth, armyworms, ello moth, lo moth, oleander moth, azalea caterpillar, codling moth, obliquebanded leaf roller, cankerworms, webworms, bagworm, fall webworm, peach twig borer, pecan nut case bearer, pine tip moth, and redhumped caterpillar</p> <p>Asian citrus psyllids, pear psylla, mealybugs and scales, blackheaded budworm, California oakworm, Douglas fir tussock moth, elm spanworm, fruittree leafroller, greenstriped mapleworm, hemlock looper, jack pine budworm, mimosa webworm, pine butterfly, saddleback caterpillar, saddle prominent caterpillar, spruce budworm, tent caterpillar, western tussock moth, gypsy moth aphids, Azalea lacebugs, <i>Lygus</i>, mites, thrips, whiteflies, and flea beetles</p>	Foliar	2 – 3 pounds per acre or 2 – 3 pounds per 100 gallons of water.	Apply in sufficient water to provide complete coverage but not excessive to the point of run-off.

Crop	Target Insect	Application Method	Product Use Rate	Application Instructions
<p>Turfgrass Bluegrass, Bentgrass, Bermudagrass, Dichondra, Fescue, Orchardgrass, <i>Poa annua</i>, Ryegrass, St. Augustine, Zoysia mixtures, and other grasses including grasses grown for seed</p> <p>Ornamental Grasses</p>	<p>Armyworms, cutworms, sod webworm, chinch bugs, and leafhoppers</p>	<p>Foliar</p>	<p>2 – 4 pounds per acre (0.75 – 1.5 ounces per 1,000 sq. ft.)</p>	<p>Mix specified dosage of MBI-203 WDG in sufficient water to provide thorough coverage of turf.</p> <p>For control of armyworms, cutworms, webworms, chinch bugs, and leafhoppers, do not irrigate following application.</p>
	<p>White grubs (such as larvae of black turfgrass ataenius, European chafer, green June beetle, <i>Aphodius</i> spp., May or June beetles (<i>Phyllophaga</i> spp.), northern and southern masked chafers (<i>Cyclocephala</i> spp.), sugarcane grub (<i>Tomarus</i> spp.)), and annual bluegrass billbug adults and larvae</p>	<p>Foliar followed by irrigation</p>	<p>2-4 pounds per 1/5th acre (10-20* pounds per acre) (4 – 8 ounces per 1,000 sq. ft.)</p>	<p>For control of white grubs and annual bluegrass weevils, use a minimum of 100 gallons of water per acre or 300 fluid ounces per 1,000 square feet.</p> <p>Thoroughly irrigate to moisten the top inch of soil. There should be no more than ½ inch of thatch present at the time of application. Time applications to occur shortly after egg hatch when grubs are 1st or 2nd instar.</p> <p>Under dry conditions where thatch is present, prewatering is recommended prior to application for grub or weevil control.</p>
<p>*Please confirm your MBI-203 WDG package size to ensure it accommodates the specified application rate before following.</p>				

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in original container in a cool, dry place.

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

Container Handling: Nonrefillable container. Do not reuse or refill this container.

Completely empty bag into application equipment. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. (For instances where state and local ordinances do allow burning): If burned, stay out of smoke.

WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. To the extent consistent with applicable law, the user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Label date:

Made in the U.S.A.


OPTIONAL LABEL CLAIMS:

- Biological Insecticide
- Dry flowable
- [OMRI Listed® (logo)]
- NOP logo
- Bioinsecticide
- Biomiticide
- Biological pesticide
- Biological miticide
- Biological seed treatment
- Made in Michigan logo

Sublabel C: Nematicide Use

MBI-203 WDG

Alternate Brand Names: GRANDEVO® WDG, GRANDEVO® NXT

 (For Organic Production) (For Use in Organic Production) (Can be used in organic production)
[OMRI Listed™ (logo)]

Active Ingredient: *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media* 30.0%
Other Ingredients: 70.0%
Total: 100.0%

*Contains not less than 1,000 Cabbage Looper Killing Units (CLKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

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.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or when going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

EPA Reg. No.: 84059-ET

EPA Est. No.: XXXXX-XX-XXX

Net Weight: 6 lb, 25 lb, 30 lb, or 1,000 lb

Lot No: _____

Manufactured [by][for]: Marrone Bio Innovations, Inc.
1540 Drew Ave.
Davis, CA 95618 USA
1-877-664-4476; info@marronebio.com

(Grandevo® is a registered trademark of Marrone Bio Innovations, Inc.)
Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- waterproof gloves
- shoes plus socks
- protective eyewear
- A NIOSH-approved particulate respirator with any R or P filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. (Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.)

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

Engineering Controls: When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY RECOMMENDATIONS

Users should:

- 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.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product is toxic to certain nontarget terrestrial arthropods. Minimize spray drift away from target area to reduce effects to nontarget insects.

This product is toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product if bees are visiting the treatment area.

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

DIRECTIONS FOR USE

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water) is:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

EXCEPTION: If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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.

Keep unprotected persons out of treated areas until sprays have dried.

PRODUCT INFORMATION

MBI-203 WDG is a biological nematicide containing cells of *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media for the control or suppression of plant-parasitic nematode pests listed in the **APPLICATION RATES FOR SELECTED CROPS** section. MBI-203 WDG can be used in the field or greenhouses for the control of any labeled pest.

Mixing directions

Important - Do not add MBI-203 WDG to the tank mix before introducing 3/4 of the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to

provide moderate circulation before adding MBI-203 WDG. Add the desired volume of MBI-203 WDG to the mix tank and continue circulation while adding the remainder of the water. Maintain circulation while loading and spraying. Do not mix more MBI-203 WDG than is needed for immediate use. Do not let the spray mixture stand overnight in the spray tank. Use a strainer no finer than 50 mesh in conventional spray systems.

pH

To maintain product properties, the pH of the mixed spray solution should be between 6-8, with the most desirable level being neutral.

Water Hardness

If you know or suspect you have hard water, add ammonium sulfate (AMS) at levels of 1-2% (w/w) or 8.5 to 17 pounds per 100 gallons of water to help maintain efficacy. Add AMS together with MBI-203 WDG or add it to the water and thoroughly dissolve before adding MBI-203 WDG. Conduct a spray test to determine if your crop/variety is compatible with these AMS levels before adding MBI-203 WDG to the tank for spraying.

Adjuvants/Carrier Volume

Avoid carrier volumes and/or adjuvants alone or in combinations that result in spray runoff or a drip accumulation.

Some adjuvants have been shown to increase or decrease the effectiveness of MBI-203 WDG. Use of quality adjuvant or crop oil is highly recommended.

Tank mixing

Do not combine MBI-203 WDG in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

To ensure compatibility of tank mix combinations, they must be evaluated prior to use. To determine the physical compatibility of this product with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables, and then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

GROUND APPLICATIONS

Apply MBI-203 WDG in ground equipment with quantities of water sufficient to provide thorough coverage of soil. The amount of water needed per acre will depend upon crop development, weather, application equipment, and local experience.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

Spray volume

For conventional ground applications, use at least 10 gallons of total volume per acre in water-based sprays. Use a minimum of 50 gallons per acre (GPA) carrier volume for all established

crops. For concentrated ground applications, use at least 10 gallons of carrier volume for all labeled crops.

CHEMIGATION USE DIRECTIONS

Spray preparation

First, prepare a suspension of MBI-203 WDG in a mix tank. Fill tank with $\frac{3}{4}$ of the amount of water for the area to be treated. Start mechanical or hydraulic agitation. Add the required amount of MBI-203 WDG, and then the remaining volume of water. Then, set the system to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start system and uniformly inject the suspension of MBI-203 WDG into the irrigation water line so as to deliver the desired rate of MBI-203 WDG per acre. Inject the suspension of MBI-203 WDG with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. MBI-203 WDG is to be metered continuously for the duration of the water application.

Do not combine MBI-203 WDG with other pesticides, surfactants, adjuvants, or fertilizers for application through chemigation equipment unless prior experience has shown the combination to be physically compatible, effective and non-injurious under your conditions of use.

General Requirements -

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move, or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) 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.
- 5) 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.

Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 1) 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.
- 2) 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 flow 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.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must 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.

- 5) 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.
- 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.

Specific Requirements for Sprinkler Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline 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.

Specific Requirements for Drip (Trickle) Chemigation -

- 1) 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.
- 2) The pesticide injection pipeline 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.

Application Instructions for All Types of Chemigation -

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues, may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Utilize agitation to keep solution in suspension.

Application Instructions for Drip Chemigation -

- 1) Check to be sure that the system provides a uniform waterflow.
- 2) Irrigate crop with sufficient water to wet the root zone. Then, begin flow of the solution containing product solution from the chemical tank for a period to uniformly distribute the material. Discontinue flow of the MBI-203 WDG mixture and let the system continue to run only as necessary to purge the line with fresh water. Let the MBI-203 WDG solution remain in the root zone of the crop.

SOIL TREATMENT USE DIRECTIONS

To protect against certain nematodes, MBI-203 WDG can be applied by soil drench, in-furrow spray, or soil injection using ground equipment only.

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, blooming crops or weeds that bees are visiting, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

In general, MBI-203 WDG can be applied by the following methods, unless specified differently in the **APPLICATION RATES FOR SELECTED CROPS** section:

Soil Drench Applications: Apply MBI-203 WDG at a concentration of 2-6 pounds per 100 to 150 gallons of water per acre, and at a sufficient rate to thoroughly soak the growing media and root zone. These soil drench applications are limited to pre-plant or at-plant.

Shanked-In and Injected Applications: MBI-203 WDG, at a concentration of 2-6 pounds per 100 to 150 gallons of water per acre, can be shanked-in or injected into the soil alone, or with most types of liquid nutrients.

In-Furrow Applications: At planting, apply MBI-203 WDG as an in-furrow spray or as a 5-7 inch band (T-band) over an open furrow at the rate of 2-6 pounds in 20 to 50 gallons of water per acre.

SEED TREATMENT USE DIRECTIONS

MBI-203 WDG can be applied as a seed dressing at plant or in commercial seed treatments for suppression of nematodes at rates specified in the **APPLICATION RATES FOR SELECTED CROPS** section. MBI-203 WDG may be applied as a water-based slurry with other registered seed treatment insecticides and fungicides through standard slurry- or mist-type commercial seed treatment equipment.

Mixing instructions: Prepare no more mixture than is required for the immediate operation. Agitate the solution continuously during mixing and application. Mechanical mixing is recommended for proper mixing of MBI-203 WDG mixtures.

MBI-203 WDG alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add MBI-203 WDG to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after MBI-203 WDG has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

MBI-203 WDG + tank-mixtures: Add ½ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations. Always allow each tank mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process.

Note: When using MBI-203 WDG in tank mixtures, add all products in water-soluble packaging to the tank before any other tank mix partner, including MBI-203 WDG. Allow the water-soluble packaging to completely dissolve and the product(s) to completely disperse before adding any other tank mix partner to the tank.

If using MBI-203 WDG in a tank mixture with other seed treatment products, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations that appear on the labels of tank mix partners. No label dosage may be exceeded and the most restrictive label precautions and limitations must be followed. This product must not be mixed with any product that prohibits such mixing.

For Pre-plant Seed Treatment: Do not use treated seed for food or feed purposes or process for oil. Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

For Commercial Seed Treatment: This product does not contain dye and is not covered by an appropriate tolerance, tolerance exemption, or other clearance under the Federal Food, Drug and Cosmetic Act. To comply with 40 CFR 153.155, therefore, all seeds treated commercially with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for man or feed for animals. The Federal Seed Act requires that bags containing seed treated with this product shall be labeled with the following information: "This seed has been treated with *Chromobacterium subsugae* strain PRAA4-1^T. Do not use for food, feed or oil purposes."

APPLICATION RATES FOR SELECTED CROPS

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF SPECIFIED NEMATODES:

Pre-harvest Interval (PHI) = 0 days

Brassica (Cole) Leafy Vegetables

Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Broccoli, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy),

Cauliflower, Cavalo Broccolo, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, and Rape Greens

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

Bulb Vegetables

Leek, Garlic, Onion (Bulb and Green), and Shallot

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

Corn (Field Corn, Sweet Corn, Popcorn and Corn Grown for Seed)

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

Seed Treatment for Corn

For suppression of plant-parasitic nematodes, apply 5 pounds of MBI-203 WDG per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

Cotton

2-6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot and Reniform (*Rotylenchus*) Nematodes

Seed Treatment for Cotton

For suppression of plant-parasitic nematodes, apply 5 pounds of MBI-203 WDG per 50 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

Cucurbit Vegetables

Cucumber, Edible Gourds, Muskmelon, Cantaloupe, Pumpkin, Watermelon, and Winter and Summer Squash

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

Fruiting Vegetables

Tomato, Tomatillo, Pepper, Groundcherry, Pepino, Okra, and Eggplant

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

Leafy Vegetables

Arugula, Celery, Corn Salad, Cress, Dandelion, Dock, Edible-Leaved Chrysanthemum, Endive, Fennel, Head Lettuce, Leaf Lettuce, Parsley, Purslane, Radicchio, Rhubarb, Spinach, and Swiss Chard

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

Legume Vegetables (Succulent or Dried) and Legume Grain Crops

Adzuki Bean, Black-eyed Pea, Beans, Chickpea, Cowpea, Crowder Pea, Edible-Pod Pea, English Pea, Fava Bean, Field Bean, Field Pea, Garbanzo Bean, Garden Pea, Green Pea, Kidney Bean, Lentils, Lima Bean, Lupins, Mung Bean, Navy Bean, Peas, Pigeon Pea, Pinto Bean, Runner Bean, Snap Bean, Snow Pea, Soybean, Sugar Snap Pea, Tepary Bean, Wax Bean, and Yardlong Bean

Seed Treatment for Legumes

For suppression of plant-parasitic nematodes, apply 2 pounds of MBI-203 WDG per 100 pounds of seed in accordance with the instructions presented in the SEED TREATMENT USE DIRECTIONS.

Peanut

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Reniform (*Rotylenchus*), Lesion, Ring, Sting, and Stunt Nematodes

Supplemental control with a layby application at pegging stage may be necessary for additional suppression of nematodes.

Root and Tuber Vegetables

Black Salsify, Carrot, Cassava, Celeriac, Chayote Root, Chicory, Chinese Artichoke, Edible Burdock, Garden Beet, Ginger, Ginseng, Horseradish, Jerusalem Artichoke, Oriental Radish, Parsnip, Potatoes, Radish, Rutabaga, Salsify, Skirret, Spanish Salsify, Sugar Beet, Sweet Potatoes, Tumeric, Turnip, Turnip-Rooted Chervil, Turnip-Rooted Parsley, and Yams

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Reniform (*Rotylenchus*), Ring, Sting, and Stunt Nematodes

Strawberry

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

For foliar applications, exceeding water volumes of 100 GPA may result in reduced product efficacy.

Tobacco

6 pounds of MBI-203 WDG per acre

For control of low to medium infestation levels of nematodes, use as a pre-plant or at-plant in furrow drench application in 100 to 150 gallons of water per acre or as an in furrow spray in 20 to 50 gallons of water per acre. When very high pest infestation levels are anticipated or encountered, other effective soil treatments may be necessary.

Root Knot, Lesion, Ring, Sting, and Stunt Nematodes

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in original container in a cool, dry place.

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

Container Handling: Nonrefillable container. Do not reuse or refill this container.

Completely empty bag into application equipment. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. (For instances where state and local ordinances do allow burning): If burned, stay out of smoke.

WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. To the extent consistent with applicable law, the user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Label date:

Made in the U.S.A.

OPTIONAL LABEL CLAIMS:

- Biological Nematicide
- Dry flowable
- [OMRI Listed® (logo)]
- NOP logo
- Made in Michigan logo
- Biological pesticide
- Biopesticide
- Biological seed treatment

Sublabel D: Home & Garden Use

MBI-203 WDG

Alternate Brand Names: GRANDEVO® WDG, GRANDEVO® NXT



(For Organic Gardening) (For Use in Organic Gardening) [OMRI Listed™ (logo)]

Active Ingredient: *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media* 30.0%

Other Ingredients: 70.0%

Total: 100.0%

*Contains not less than 1,000 Cabbage Looper Killing Units (CLKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

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.
HOT LINE NUMBER Have the product container or label with you when calling a poison control center or doctor, or when going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	

EPA Reg. No.: 84059-ET

EPA Est. No.: XXXXX-XX-XXX

Net Weight: 1lb

Lot No: _____

Manufactured [by][for]: Marrone Bio Innovations, Inc.
1540 Drew Ave.
Davis, CA 95618 USA
1-877-664-4476; info@marronebio.com

(Grandevo® is a registered trademark of Marrone Bio Innovations, Inc.)

Marrone Bio Innovations name and logo are registered trademarks of Marrone Bio Innovations, Inc.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product is toxic to certain nontarget terrestrial arthropods. Minimize spray drift away from target area to reduce effects to nontarget insects.

This product is toxic to bees exposed to direct treatment or residues on blooming plants or weeds. Do not apply this product if bees are visiting the treatment area.

To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area.

DIRECTIONS FOR USE

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

HOME AND GARDEN USE DIRECTIONS

MBI-203 WDG is a biological insecticide/miticide containing cells of *Chromobacterium subtsugae* strain PRAA4-1^T and spent fermentation media, for use on ornamental plants, turf and edible plants against the pests listed in the **DIRECTIONS FOR CONTROL OR SUPPRESSION OF FOLIAR PESTS, SOIL-DWELLING PESTS, TURF PESTS, AND OUTDOOR HOUSEHOLD PESTS** sections. MBI-203 WDG functions primarily as a stomach poison for use in the control or suppression of many foliar-feeding pests, including caterpillars, and certain Coleoptera. MBI-203 WDG has multiple effects, including reducing fecundity and oviposition, deterring feeding and acting as a stomach poison on Homoptera and Hemiptera, such as aphids, psyllids, whiteflies, *Lygus* and mealybugs, thrips, and phytophagous mites infesting labeled crops or use sites. MBI-203 WDG must be mixed with water and applied as a foliar spray for control of above-ground pests or applied as a soil drench for control of below-ground pests.

DIRECTIONS FOR CONTROL OF FOLIAR PESTS

WHEN TO USE

For best results, apply MBI-203 WDG before populations reach damaging levels or when egg deposition is observed.

BEFORE YOU USE

Do not allow spray to drift from application site.

Do not allow spray mixture to stand overnight or for prolonged periods.

MBI-203 WDG can be applied in commonly used pressurized hand-held sprayers, spray trigger bottles and hose-end sprayers.

HOW TO USE FOR HAND-HELD SPRAYERS AND SPRAY TRIGGER BOTTLES

Fill sprayer or bottle with appropriate amount of water and MBI-203 WDG.

Mix the spray solution thoroughly.

Keep the spray solution agitated during application.

HOW TO USE FOR HOSE-END SPRAYERS

For a 32-fluid ounce “dial and spray” hose-end sprayer, use 8 tablespoons of MBI-203 WDG.

Add 8 tablespoons of MBI-203 WDG to the sprayer. Add 16 fluid ounces of water and shake until MBI-203 WDG is fully dispersed. Add the remaining 16 fluid ounces of water to fill the sprayer bottle. Set dial to apply product (typically 8 ounces of concentrated mixture per gallon of water sprayed) and apply following the treatment rates outlined below.

HOW MUCH TO USE FOR ALL FOLIAR APPLICATIONS

2 tablespoons of MBI-203 WDG per gallon of water

Some pesticides can cause phytotoxic effects ranging from slight burning or browning of leaves to distorted leaves, fruit, flowers or stems. Damage symptoms may vary with the type of plant that has been treated. It is impossible to test all plant species for phytotoxicity. To assure that the plants to be treated are not sensitive to the treatment, apply a small amount of the product to a few leaves or the above-ground portion of the plant and check back in 2-4 days for signs of phytotoxicity. Use product according to label directions.

INSECTS CONTROLLED ON VEGETABLES, FRUITS, NUTS, ORNAMENTAL PLANTS, TREES, SHRUBS, FLOWERS, FOLIAGE AND TROPICAL PLANTS

Adult Japanese beetles
Alfalfa caterpillar
Alfalfa webworm
Adelgids
Aphids
Apple maggot
Armyworms
Cabbage looper
Chinch bugs
Codling moth
Corn earworm
Diamondback moth
Fruit flies
Hornworms
Imported cabbageworm
Kudzu bugs
Lace bugs
Leaf-footed plant bugs
Leaf rollers
Leafhoppers
Light brown apple moth
Loopers

Lygus
Mealybugs
Mites
Plant bugs
Psyllids
Scales
Sharpshooters
Spittle bugs
Spotted wing drosophila
Stink bugs
Tent caterpillars
Thrips
Tufted apple budworm
Webworms
Whiteflies

DIRECTIONS FOR SUPPRESSION OF SOIL-DWELLING PESTS (EXCLUDING TURF)

For suppression of soil-dwelling pests, including root and seed maggots, wireworms, symphylans, cutworms, white grubs and plant-parasitic nematodes, apply MBI-203 WDG as a soil drench directly into the seed furrow. Mix MBI-203 WDG at rate of 3 tablespoons per gallon of water, and apply the mixture at the rate of 1 quart (32 fluid ounces) per 25 feet of row. For individual plants, such as tomatoes and peppers, apply the mixture as a soil drench at the rate of 4 fluid ounces per plant.

DIRECTIONS FOR SUPPRESSION OF INSECT PESTS OF TURF

Webworms, cutworms, chinch bug, and leafhoppers

Mix MBI-203 WDG at the rate of 6 tablespoons per gallon of water, and apply the mixture to turf with a pressurized sprayer at the rate of 1 gallon per 250 square feet of turf.

White grubs (including green June beetle, *Aphodius* spp., May or June beetles (*Phyllophaga* spp.), northern and southern masked chafers (*Cyclocephala* spp.), sugarcane grub (*Tomarus* spp.), and Oriental beetle) and annual bluegrass weevil adult and larvae. For grub control, apply MBI-203 WDG soon after egg hatch when grubs are 1st or 2nd instar.

Mix ½ pound (8 ounces) MBI-203 WDG per gallon of water, and apply at the rate of 1 gallon per 250 square feet of turf. For best control, thoroughly irrigate following application to moisten the top inch of soil. There should be no more than ½ inch of thatch present at the time of application. Under dry conditions where thatch is present, pre-watering is recommended prior to application for grub or weevil control. For best results, target smaller first and second instar grubs during late summer and early fall.

For control of armyworms, cutworms, webworms, chinch bugs or leafhoppers, do not irrigate following application.

DIRECTIONS FOR CONTROL OF OUTDOOR HOUSEHOLD PESTS

1 pound of MBI-203 WDG per 12 gallons of water.

Boxelder beetle and brown marmorated stinkbug

Harmless insects become nuisances when searching indoors for hibernation sites in the fall.

Treat outdoor areas where the insects congregate.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool, dry place.

Pesticide Disposal and Container Handling: Nonrefillable container. Do not reuse or refill this container. **If empty:** Place in trash or offer for recycling if available.

If partially filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. To the extent consistent with applicable law, the user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Label date:

Made in the U.S.A.

OPTIONAL LABEL CLAIMS:

- Biopesticide
- Biological Insecticide
- Dry flowable
- [OMRI Listed® (logo)]
- NOP logo
- Bioinsecticide
- Biomiticide
- Biological pesticide
- Biological miticide
- Made in Michigan logo