

{Note to reviewer: [Bracketed text] is optional or alternate wording and (parenthetical text) is informational.}

## *Wolbachia pipientis, wAlbB Strain*

# **WB1 Males**

**The *Wolbachia* bacterium prevents the development of Yellow Fever (*Aedes aegypti*) mosquito eggs**

**ACTIVE INGREDIENT:** The Active Ingredient is *Wolbachia pipientis*, wAlbB Strain\*, contained in live adult *Aedes aegypti* mosquitoes ..... < 0.001% \*\*

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\* Cytoplasmic Incompatibility (CI) confirmation: egg hatch from incompatible matings < 0.2%

\*\* Percent (w/w) of adult male mosquitoes

**KEEP OUT OF REACH OF CHILDREN**

***Contains live male mosquitoes***

(Note to reviewer: One of the following options for net contents will be displayed on the commercial label.)

**[600C] NET UNIT CONTENTS:** *Wolbachia pipientis*, wAlbB strain, contained in 600 ± 60 adult male *Aedes aegypti* mosquitoes.

Contains X units. Net weight X ounces (X - X oz. packets).

**[1200C] NET UNIT CONTENTS:** *Wolbachia pipientis*, wAlbB strain, contained in 1,200 ± 120 adult male *Aedes aegypti* mosquitoes.

Contains X units. Net weight X ounces (X - X oz. packets).

**[1200T] NET UNIT CONTENTS:** *Wolbachia pipientis*, wAlbB strain, contained in 1,200 ± 900 adult male *Aedes aegypti* mosquitoes.

Contains X units. Net weight X ounces (X - X oz. packets).

**[8400C] NET UNIT CONTENTS:** *Wolbachia pipientis*, wAlbB strain, contained in 8,400 (5,000 – 14,000) adult male *Aedes aegypti* mosquitoes.

Contains X units. Net weight X ounces (X - X oz. packets).

**Use as soon as possible and within 72 hours of receipt.**

## **DIRECTIONS FOR USE**

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

For use only by MosquitoMate, Inc.; persons under direct contract with MosquitoMate, Inc., for the purpose of application of this pesticide; or by federal, state, tribal, or local government officials responsible for public health or vector control; or by persons certified in the appropriate category or otherwise authorized

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by the state or tribal lead pesticide regulatory agency to perform mosquito control applications.

## **INSECTS SUPPRESSED**

*WB1 Males* reduce populations of *Aedes aegypti* (Yellow Fever mosquito). If used in accordance with this label, *WB1 Males* have shown to reduce female yellow fever mosquito populations. Reduced suppression levels will be observed in release areas that are within 100 meters of a non-release area, e.g., along the outside edge of the release area, due to the immigration of females from outside the release area.

## **RESTRICTIONS**

- For use only in locations with *Ae. aegypti* (Yellow Fever mosquito)
- For outdoor use only.
- To be applied at contiguous areas that are 20 acres or larger in size.
- Use as soon as possible and within 72 hours of receipt.
- Do not apply in wind speeds exceeding 15 mph.
- Do not use at a time when aerial mosquito adulticides are actively being applied in the *WB1 Male* treatment area.

## **WHEN TO USE**

Start releases of *WB1 Males* at the beginning of the yellow fever mosquito season, which helps ensure highest possible efficacy (greatest population suppression). If the initial release of *WB1 Males* is delayed, efficacy may be reduced. In case of delay, it is highly advisable to first reduce the existing yellow fever mosquito population prior to releasing *WB1 Males* by using other pesticides registered for mosquito control.

Contact MosquitoMate, Inc. at +1-859-429-0501 to determine the start and end of the yellow fever mosquito season in your area.

## **APPLICATION RATE**

Application rates are based on area. Apply a minimum of 1,200 males per acre per week across a contiguous area that is 20 acres or larger. For multiple units, divide the number of *WB1* males by 1,200 to determine the number of acres to be treated. If multiple units are used, distribute mosquito releases evenly over the area to be treated. Adhere to this regimen until the end of the mosquito season to ensure highest possible efficacy.

(Note to reviewer: One of the following sets of application rate instructions will appear on the commercial label depending on container net contents size.)

- *(For the 600C unit):* Two [600C units] (1,200 *WB1* Males) are adequate *WB1* males for one acre of the total treatment area, which is 1/20<sup>th</sup> of the minimum 20 contiguous acre treatment area.
- *(For the 1200C unit):* Each [1200C unit] (1,200 *WB1* Males) is adequate *WB1* males for one acre of the total treatment area, which is 1/20<sup>th</sup> of the minimum 20 contiguous acre treatment area.
- *(For the 1200T unit):* This container may be used in refilling the 8400C unit, refer to the loading device instructions on proper use and transfer of this container. If the *WB1* male number is not displayed on the container, then the user may optionally confirm the number of *WB1* males in the 1200T unit by following the instructions provided with the loading device and adjust the treated area appropriately to apply a minimum of 1,200 males per acre per week. Apply only at contiguous areas that are 20 acres or larger in size.
- *(For the 8400C unit):* The user may optionally confirm the number of *WB1* males in the 8400C unit by following the instructions provided with the loading device, and adjust the treated area appropriately to apply a minimum of 1,200 males per acre per week. The user may refill the 8400C unit with *WB1* Males using multiple 1200T units. Refer to the loading device instruction manual for refilling and loading instructions. Apply only at contiguous areas that are 20 acres or larger in size.

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- (Only for the 8400C unit) **Instructions for refilling the 8400C unit:** Following instructions provided with the 8400C container loading device (“loading device”), load a clean, empty 8400C container into the loading device, ensuring that the 8400C container is fully sealed in the loading device. Load the 1200T containers into the loading device, ensuring that the 1200T containers are fully sealed in the loading device. Activate the loading device following the instructions that are provided with the loading device. Run loading device until the mosquitoes are transferred. Unload the (filled) 8400C container from the loading device. User may optionally confirm the number of WB1 males in the 8400C and 1200T containers by following instructions provided with the loading device. Return empty 1200T container(s) to the manufacturer. Call +1-859-429-0501 for instructions on returning the empty 1200T containers. Apply only at contiguous areas that are 20 acres or larger in size.

Overflooding ratio in treatment areas should be used to adjust release rates as required to maintain desired overflooding ratio of WB1:Wild type male *Ae. aegypti* of >10:1 and to compensate for estimated higher levels of *Ae. aegypti* in treatment areas as appropriate. Overflooding ratio is determined by comparing the pre- and post-release average male trap counts in treatment areas or by using molecular methods on males sampled from treatment areas (to differentiate WB1 males from Wild Type see Crawford et al 2020<sup>1</sup> for similar methods). Contact MosquitoMate for more information on how to determine overflooding ratio.

## METHOD OF APPLICATION

- If receipt of the shipment is delayed by more than 48 hours or if the males appear damaged, then release any viable mosquitoes and discard dead mosquitoes in the trash. Contact MosquitoMate for a new shipment to replace the delayed or damaged material.
- Keep container closed until ready to release the *WB1 Males*.
- The male mosquitoes should appear vigorous within the container. If males do not appear vigorous or appear damaged, then release any viable mosquitoes and discard dead mosquitoes in trash. Contact MosquitoMate for a new shipment to replace the delayed or damaged material.
- Multiple release points are required to cover the treatment area that is 20 acres or larger in size, and the user must ensure that treatment areas overlap.
- Determine the release point(s) and release routes to ensure even coverage and adhere to this regimen until the end of the yellow fever mosquito season to ensure the highest possible efficacy
- For point releases, when ready to release:
  1. Carry the container to the predetermined release site.
  2. Point opening of container away from face and open lid.
  3. Gently shake or rotate the container to facilitate release of the WB1 Males.
- Vehicle releases are to be performed only at contiguous areas that are 20 acres or larger in size.
  - Vehicle release WB1 Males from roads immediately adjacent to (within 40 yards of) the desired treatment locations.
  - Vehicle release strips proceed from an initial release point along the release route and cover up to 120 yards from the initial release point, i.e. two acres (120 x 80 yds<sup>2</sup>) centered on the driving route. Each 8400C unit can be used to treat multiple release strips, and multiple units may be required to treat an area, depending on the size of the treatment area and desired weekly treatment rate.
  - To compute the number of mosquitoes that will be applied at each release strip, divide the number of mosquitoes in the 8400C container by the number of segments in the container (56, unless otherwise indicated on the container). For example, 8,400 mosquitoes divided by 56 segments = 150 mosquitoes per segment. Use this mosquito number to determine how many segments to apply over the desired treatment area. For example, for a one-acre release strip, eight segments at 150 mosquitoes per segment are required to achieve 1,200 males per acre.
  - Vehicle releases may be initiated manually by the user or automatically by the release

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<sup>1</sup> Crawford, J.E., Clarke, D.W., Criswell, V. et al. (2020). Efficient production of male Wolbachia-infected *Aedes aegypti* mosquitoes enables large-scale suppression of wild populations. *Nat Biotechnol* 38, 482– 492. doi: <https://doi.org/10.1038/s41587-020-0471-x>

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equipment, as the vehicle reaches release points along the release routes.

- Conduct releases when Vehicle is moving at <25 mph.
- Ensure that all planned release locations have been covered by the vehicle releases, adding manual releases from the vehicle or on foot as necessary to complete the planned treatment.
- Contact MosquitoMate for more information on vehicle releases and vehicle release planning, and to enable automated releases.

## USE IN INTEGRATED VECTOR MANAGEMENT PROGRAMS

*WB1 Males* are meant to be used as part of an integrated vector management program. This includes the use of source reduction, larvicides, and adulticides. Any integration of mosquito adulticiding must be timed to minimize potential negative effects on the *WB1 Males* that are released into the treatment area. Consult the pesticide label of the adulticide to determine the most appropriate timing of release of *WB1 Males* between pesticide treatments.

## STORAGE AND DISPOSAL

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

### STORAGE

Keep container closed until ready to use. Keep in original container. Store *WB1 Males* out of direct sunlight and at moderate temperatures 45°F - 95°F (7°C - 35°C).

### PESTICIDE DISPOSAL

Release all living *WB1 Males* present in container as soon as possible and within 72 hours of receipt. Discard dead individuals in trash. If *WB1 Males* are not released within 72 hours of receipt, if the males exceed the minimum or maximum allowed temperatures [45°F - 95°F (7°C - 35°C)], or if the males are damaged, kill males by freezing or allow them to die by keeping inside closed container for a minimum of 7 days, then discard dead mosquitoes in trash.

### CONTAINER HANDLING

**Refillable container:** Do not reuse this container for any other purpose. Return to point of sale by calling +1-859-429-0501 for instructions on returning the empty container or offer for recycling if available or dispose of in trash, or in a sanitary landfill, or by incineration. If not returning to the manufacturer, cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean, remove the cap from both ends of the tube, and then use a dry brush to remove any mosquitoes stuck to the inside of the container. Do not burn, unless allowed by state and local ordinances.

## WARRANTY STATEMENT CONDITIONS

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of MosquitoMate, Inc. All such risks shall be assumed by the user or buyer.

## DISCLAIMER OF WARRANTIES

To the extent consistent with applicable law, MosquitoMate, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of MosquitoMate, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, MosquitoMate, Inc. disclaims any liability whatsoever for special, incidental, or consequential damages resulting from the use or handling of this product.

## LIMITATIONS OF LIABILITY

To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries, or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at MosquitoMate, Inc.'s election, the replacement of product.

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**Optional Images and Graphics**

