Certis USA

**JAVALIN® WG**

For Control of Insect Pests of Vegetables, Fruit and Field Crops

Active Ingredient:
*Bacillus thuringiensis*, subspecies* kurstaki*

Potency of 52,863 Spodoptera Units (at least 60 million viable spores)

Inert Ingredients: ............................................. 92.5%

TOTAL .................................................. 100.0%

Potency units should not be used to adjust use rates beyond those specified in the Directions for Use section.

*Equivalent to 24.0 billion Spodoptera units per pound (17.0 billion International Units per pound).

EPA Reg. No. 70051-66
EPA Est. No. 70051-CA-001

KEEP OUT OF REACH OF CHILDREN

CAUTION

See additional precautionary statements.

**DIRECTIONS FOR USE:** IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Harmful if inhaled or absorbed through the skin. Avoid breathing vapors or spray mist. Prolonged or frequently repeated skin contact may cause an allergic reaction in some individuals. Avoid contact with skin, eyes or clothing. Discontinue use if reaction occurs. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.

**STATEMENT OF PRACTICAL TREATMENT**

**If in Eyes:** Immediately flush eyes with plenty of water. Get medical attention if irritation persists.

**If on Skin:** Wash with plenty of soap and water. Get medical attention if irritation persists.

**If in Mouth:** Do not induce vomiting. Get medical attention immediately.

**Personal Protective Equipment:**

Applicators and other handlers must wear:
- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

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

**Engineering Controls Statements:**

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

**User Safety Recommendations:**

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

Do not contaminate water when disposing of equipment washwaters.

**DIRECTIONS FOR USE**

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

For any requirements specific to your State or Tribe, consult the 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. These requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**INSECTS CONTROLLED**

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.

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

**NOTICE:** Read “Limitation of Warranty and Limitation of Liability” on the container or in these Directions for Use section before buying or using. If terms are not acceptable, return at once, unopened.

Unless specifically stated, do not apply this product through any type of irrigation system.

JAVALIN® WG is a biological insecticide for the control of lepidopterous larvae (see Recommended Application Rates section).

JAVALIN WG attacks the larval gut and must be ingested by the insect to be effective.

JAVALIN WG may be applied up to and on the day of harvest.

**GENERAL USE INSTRUCTIONS**

For most consistent control, apply at first sign of newly hatched worms (1st and 2nd instar larvae). Instructions for specific crops are located in the ADDITIONAL INSTRUCTIONS sections under RECOMMENDED APPLICATION RATES. Reapply as necessary under a pest management program that includes close scouting.

If rapid knockdown of heavy worm or non-lepidopterous populations is necessary, include an effective contact insecticide in combination with JAVALIN WG.

For heavy worm infestations, use the higher JAVALIN WG rate. During situations of dense foliage and/or rapid growth, increasing water carrier volumes will provide better crop coverage and improve JAVALIN WG performance.

Tank mix recommendations are for use only in states where the tank mix product and application site are registered. Read and follow all label directions for use for other pesticides used as tank mix partners with JAVALIN WG for specific rate recommendations, application timing, and precautions.

**Mixing**

Fill spray or mixing tank ¾ full. Turn on agitation and pour JAVALIN WG into water while maintaining continuous agitation. Add other spray material (if any) and add balance of water. Agitate as necessary to maintain suspension. Do not allow diluted sprays to remain in the tank for more than 48 hours. JAVALIN WG is formulated to provide desirable coverage and adherence to leaf surfaces. Additional adjuvants, spreaders, or stickers may be added to improve product performance, especially under heavy dew or rainy conditions. Combinations with commonly used insecticides, fungicides, or other spray adjuvants are generally not deleterious to JAVALIN WG if the mix is used promptly. Before mixing in the spray tank, it is advisable to test physical compatibility by mixing all components in a small container in proportionate quantities.

**Ground Application**

Unless otherwise stated, use recommended amount of JAVALIN WG in a minimum of 20 gallons of water per acre depending on type of crop and requirements of state regulations. If lower volumes are used, proper application equipment must be used to insure adequate coverage. Thorough and uniform crop coverage is required for adequate insect control.

**Aerial Application**

Use recommended amount of JAVALIN WG in at least 3 gallons of water per acre. Applications at higher water volumes have demonstrated improved control of targeted pests. Apply early morning or evening when air is calm.

**COMMON NAME**

**SCIENTIFIC NAME**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa caterpillar</td>
<td>Colias eurytheme (Boisdou)</td>
</tr>
<tr>
<td>Almond Moth</td>
<td>Cadra cautella (Walker)</td>
</tr>
<tr>
<td>Armyworm</td>
<td>Pseudaelita unipuncta (Haworth)</td>
</tr>
<tr>
<td>Artichoke plume moth</td>
<td>Grapholita cardiaictyla (Riley)</td>
</tr>
<tr>
<td>Bagworm</td>
<td>Thyridopteres ephemeraphormus (Haworth)</td>
</tr>
<tr>
<td>Banana skipper</td>
<td>Eriopota thlas (Haworth)</td>
</tr>
<tr>
<td>Bertha armymoth</td>
<td>Mestaena confurata (various)</td>
</tr>
<tr>
<td>Blueberry leafroller</td>
<td>Iulea argillacera (Pack.)</td>
</tr>
<tr>
<td>Blueberry spanworm</td>
<td>Helicoverpa zea (Bodie)</td>
</tr>
<tr>
<td>Bollworm</td>
<td>Phryganidia californica (Packard)</td>
</tr>
<tr>
<td>California oak moth</td>
<td>Grapholita packard (Zeller)</td>
</tr>
<tr>
<td>Cherry fruitworm</td>
<td>Xylyngyes curialis</td>
</tr>
<tr>
<td>Citrus curtworm</td>
<td>Cydia pomonella (Linnaeus)</td>
</tr>
<tr>
<td>Codling moth</td>
<td>Buculatrix turbellera (Busck)</td>
</tr>
<tr>
<td>Cotton leafroller</td>
<td>Alabama argillacea (Hubner)</td>
</tr>
<tr>
<td>Cotton leafworm</td>
<td>various, family Noctuidae</td>
</tr>
<tr>
<td>Diamondback moth</td>
<td>Plutella xyllostola (Linnaeus)</td>
</tr>
</tbody>
</table>
### RATE SELECTION CONSIDERATIONS
Rate recommendations are typically given as a range:

- **Lower rate ranges** may be desired when tank mixing with contact insecticides labeled for worm control or under conditions of light worm infestations or when uniformly small worms are present.
- **Medium rate ranges** may be desired when multiple worm life stages are present, continuous egg hatches are occurring or young or light armworm infestations exist.
- **Upper rate ranges** may be desired for heavy worm infestations, mature (larger) worms or for moderate to heavy infestations of armwormy, bollworm, or other difficulty to control worm species.

Unless otherwise stated, use recommended amount of JAVELIN WG in a minimum of 20 gallons of water per acre depending on type of crop and requirement of state regulations. Lower volumes may be used, but proper application equipment must be used to insure adequate coverage. Thorough and uniform crop coverage is required for adequate insect control.

### RECOMMENDED APPLICATION RATES

#### VEGETABLE CROPS

<table>
<thead>
<tr>
<th>Crops</th>
<th>Lbs/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artichokes</td>
<td>0.50-1.25</td>
</tr>
<tr>
<td>Asparagus, Beans (Green, Lima, Mung), Broccoli, Broccolini, Cauliflower, Celeriac, Celery, Chick Peas, Chinese Broccoli, Chinese Cabbage, Collards, Cucumbers, Dry Bulb Onions, Eggplants, Garlic, Green Onions, Greens (Dandelion, Turnip), Mustard, Beet, (China), Herbs (Basil, Cilantro, Dill, Oregano, Thyme, etc.), Horseradish, Kale, Kohl Rabi, Leeks, Lettuce</td>
<td>0.12-1.50</td>
</tr>
</tbody>
</table>

### FIELD CROPS

<table>
<thead>
<tr>
<th>Crops</th>
<th>Lbs/Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa (Hay and Seed), Sudan Grass, Hay Crops &amp; Other Forage Crops</td>
<td>0.25-1.50</td>
</tr>
<tr>
<td>Canola and Evening Primrose</td>
<td>0.12-1.50</td>
</tr>
<tr>
<td>Dry Beans and Peas, Lentils, Mint, Peanuts, Rice, Safflower, Soybeans, Sugar Beets, Sunflower, Sorghum</td>
<td>0.25-1.50</td>
</tr>
<tr>
<td>Field Corn, Pop Corn, Seed Corn</td>
<td>0.50-1.50</td>
</tr>
<tr>
<td>Hops</td>
<td>0.25-1.00</td>
</tr>
<tr>
<td>Jojoba</td>
<td>0.50-1.00</td>
</tr>
<tr>
<td>Cotton</td>
<td>0.50-1.50</td>
</tr>
</tbody>
</table>

### SPECIMEN LABEL. UPDATES AVAILABLE AT WWW.GREENBOOK.NET
FRUIT, NUT & VINE CROPS

**Apples and Pears**

**ADDITIONAL INSTRUCTIONS:**
- Apply when newly hatched larvae appear and before leaves are rolled. Continue applying as part of the normal cover spray program until pest is adequately controlled. Apply when caterpillars are actively feeding (2nd-4th instars).

**Avocados**

**ADDITIONAL INSTRUCTIONS:**
- Apply as necessary to maintain control. Begin treatment as soon as possible after hatching and before leaves are protected by leaf folds. (Amorbia [Mexican leafroller] is suppressed only.)

**Bananas**

**ADDITIONAL INSTRUCTIONS:**
- Hawaii only. Use calibrated ground equipment with adequate water to apply to point of runoff.

**Citrus**

**ADDITIONAL INSTRUCTIONS:**
- Use 50-600 gallons of water per acre when using ground equipment and 10 gallons of water minimum per acre by air. (Amorbia [Mexican leafroller] is suppressed only.)

**Blueberries, Caneberries, Currents, Kiwi**

**ADDITIONAL INSTRUCTIONS:**
- Apply by ground or aerial equipment using enough water to provide adequate coverage. Begin treatment as soon as possible after hatching. For leafrollers, apply before larvae are protected by leaf folds.

**Grapes**

**ADDITIONAL INSTRUCTIONS:**
- Apply by ground equipment in up to 200 gallons total spray per acre to obtain thorough coverage of leaf surfaces. Start treating as soon as possible after hatching and before larvae are protected by leaf folds.

**Almonds, Apricots, Cherries, Figlets, Nectarines, Peaches, Pecans, Persimmons, Plums, Pomegranates, Prunes, Walnuts**

**ADDITIONAL INSTRUCTIONS:**
- For leafrollers, start treating as soon as possible after hatching and before larvae are protected by leaf folds. Apply when caterpillars are actively feeding (2nd-4th instar).
- Application timing is very important for good casebearer suppression. Consult your local university or extension agent for information concerning specific modeling, that predicts egg lay, typical application dates, and scouting techniques for your area. JAVELIN WG must be present at egg hatch for best control. Make application when the majority of eggs are in the pink stage. For best control make two applications 7 days apart. If only one application is made, a minimum of 1 lb. should be applied.

**Melons (Also see vegetables)**

**ADDITIONAL INSTRUCTIONS:**
- Apply at first sign of hatching before larvae enter fruit. Repeat as necessary to maintain control.

**Strawberries**

**ADDITIONAL INSTRUCTIONS:**
- Apply as necessary to maintain control. Use 20 gallons water minimum per acre when using ground equipment and 5 gallons water minimum per acre by aircraft.
- In a tank mix with contact insecticides, rates as low as ½ lb. of JAVELIN WG may be used for the control of armyworms.

**SHADE TREES AND ORNAMENTALS (Including Roses)**

**ADDITIONAL INSTRUCTIONS:**
- Apply when leaf expansion reaches 40% to 50% as infestation warrants. If eggs hatch over a long period of time, or if reinestatement occurs, spray about 14 days after first application.
- Apply when most larvae are 3rd-4th instar. Also consider the opening of the bud cap to ensure foliage exposure. Apply after eggs have hatched and early instar larvae are feeding on exposed foliage.

**TURF AND GRASS SEED PRODUCTION**

**ADDITIONAL INSTRUCTIONS:**
- Repeat as necessary throughout season to maintain control.

**STORED SOYBEANS, GRAINS**

**ADDITIONAL INSTRUCTIONS:**
- To control and prevent Indian Meal Moth and Almond Moth infestations of stored soybeans and grains, prepare a spray mixture which includes 1 gallon of water for every 1.5 oz. by weight of JAVELIN WG. The spray mixture may be applied either by treating the top 4 inches of grain as it is being augered into storage (applying 0.6 pint of mixture per bushel in the grain stream), or by treating the surface of grain after it is in the bin. The Table below can be used as a guide in determining the total amount of JAVELIN WG needed according to bin diameter or the number of bushels to be treated.

<table>
<thead>
<tr>
<th>Bin Diameter (ft.)</th>
<th>Surface Area (sq. ft.)</th>
<th>Bushels (to 4 in. depth)</th>
<th>JAVELIN WG Rate (by weight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>50</td>
<td>13</td>
<td>21</td>
</tr>
<tr>
<td>12</td>
<td>113</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>16</td>
<td>201</td>
<td>53</td>
<td>85</td>
</tr>
<tr>
<td>20</td>
<td>314</td>
<td>84</td>
<td>120</td>
</tr>
<tr>
<td>24</td>
<td>452</td>
<td>120</td>
<td>185</td>
</tr>
<tr>
<td>28</td>
<td>615</td>
<td>163</td>
<td>255</td>
</tr>
<tr>
<td>32</td>
<td>804</td>
<td>214</td>
<td>326</td>
</tr>
</tbody>
</table>

To insure thorough coverage when making applications to the grain surface after it is in the bin, apply spray mixture in three (3) applications. Mix the grain with a scoop or rake to a depth of four (4) inches after each application.

To control and prevent Indian Meal Moth and Almond Moth in the greenhouse at a rate of 0.25-1.50 lbs. per 100 gallons of water for control of listed insects on this label.

**Guide for Small Spray Volume Mixing**

<table>
<thead>
<tr>
<th>Rate</th>
<th>Conversion Rate* Teaspoons/Gallon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>½</td>
</tr>
<tr>
<td>1/2</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Assumes Application to spray runoff.

**STORAGE AND DISPOSAL**

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

**Storage**

Store in original container in a cool, dry place inaccessible to children and pets and away from heat and direct sunlight. Protect from freezing. Storage at temperatures above 90°F may impair effectiveness.

**Pesticide Disposal**

Pesticide, spray mixture, or rinse water that cannot be used according to label directions shall be disposed of in a sanitary landfill or incinerated or disposed of in a sanitary landfill, or by incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

**LIMITATION OF WARRANTY AND LIMITATION OF LIABILITY**

Thermo Trilogy Corp. warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the insect problem, condition of the crop, incompatibility with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.

**REGISTERED TRADEMARKS**

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