



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 25, 2016

Alexander Pierce  
Regulatory Affairs Associate  
Certis USA LLC  
9145 Guilford Road, Suite 175  
Columbia, MD 21046

Subject: Labeling Notification per Pesticide Registration Notice (PRN) 98-10 – Update with New  
Language for Pests and Control  
Product Name: Javelin WG  
EPA Registration Number: 70051-66  
Application Date: 06/29/2016  
OPP Decision Number: 519534

Dear Mr. Pierce:

The U.S. Environmental Protection Agency (EPA) is in receipt of your application for notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Biopesticides and Pollution Prevention Division (BPPD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The labeling submitted with this application has been stamped “Notification” and will be placed in our records. You must submit one (1) copy of the final printed labeling with the modifications.

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 the Federal Insecticide, Fungicide, and Rodenticide Act (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.

Page 2 of 2  
EPA Reg. No. 70051-66  
OPP Decision No. 519534

If you have any questions, please contact Nicola Steinmetz of my team by phone at (703) 347-8567 or via email at [steinmetz.nicola@epa.gov](mailto:steinmetz.nicola@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeannine Kausch', with several overlapping loops and a long horizontal stroke at the end.

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

Enclosure

# Javelin® WG

## BIOLOGICAL INSECTICIDE

### NOTIFICATION

70051-66

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

08/25/2016

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



 FOR ORGANIC PRODUCTION

### ACTIVE INGREDIENT:

*Bacillus thuringiensis*, subspecies *kurstaki* strain SA-11 solids, spores,  
and Lepidopteran active toxins\* ..... 85.0%

**OTHER INGREDIENTS:** ..... 15.0%

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

\* The percentage active ingredient does not indicate product performance and potency measurements are not federally standardized.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

See additional precautionary statements

**EPA REG. NO.: 70051-66**

**Lot No.**

**EPA EST. NO.: 70051-CA-001**

**Net Contents:**

**Manufactured by:  
CERTIS USA, L.L.C.  
9145 GUILFORD ROAD, SUITE 175  
COLUMBIA, MD 21046**

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Harmful if inhaled. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**FIRST AID**

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

**If in eyes:** 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.

**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.

Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Hot Line Number: 1-800-255-3924.

**Personal Protective Equipment (PPE):**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- A NIOSH approved particulate respirator with any N, 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 manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, 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 [40CFR

170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations:**

Users should:

- 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 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 cleaning equipment or disposing of equipment washwaters.

This product must not be applied aerially within 1/4 mile of any habitats of endangered or threatened Lepidoptera. No manual application can be made within 300 ft. of any threatened or endangered Lepidoptera.

**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.

Prosper with pesticides by using them properly! Read and follow label directions.

This labeling must be in the possession of the user at the time of the pesticide application.

**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 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 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 the Directions for Use section before buying or using. If terms are not acceptable, return at once, unopened.

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

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

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

### **APPLICATION DIRECTIONS**

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 INSTRUCTION sections under 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 JAVELIN® WG.

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

Tank mix instructions 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 JAVELIN® WG for specific rates, application timing, and precautions.

### **Mixing**

Fill spray or mixing tank 3/4 full of water. Turn on agitation and pour JAVELIN® 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. JAVELIN® 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 tank adjuvants are generally not deleterious to JAVELIN® WG if the mix is used promptly. Before mixing in the spray tank, it is advisable to test physical compatibility by mixing all the components in a small container in proportionate quantities.

### **Application Instructions**

Avoiding spray drift at the application site is the responsibility of the applicator. The interactions 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.

### **Ground Application**

Unless otherwise stated, use the application rate amount of JAVELIN® 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 application rate amount of JAVELIN® 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.

## **INSECTS CONTROLLED**

When used as directed, JAVELIN® WG will control the following insects.

<b>Common Name</b>	<b>Scientific Name</b>
Alfalfa caterpillar	<i>Colias eurytheme</i> (Boisduval)
Almond Moth	<i>Cadra cautella</i> (Walker)
Armyworms	<i>Pseudaletia</i> and <i>Spodoptera</i> spp. (Haworth)
Artichoke plume moth	<i>Platyptilla carduidactyla</i> (Riley)
Bagworm	<i>Thyridopteryx ephemeraeformis</i> (Haworth)
Banana moth	<i>Opogona sacchari</i>
Banana skipper	<i>Erionota thrax</i> (Haworth)
Bertha armyworm	<i>Mamestra configurata</i>

Blueberry leafrollers	various
Blueberry spanworm	<i>Itame argillacearia</i> (Pack.)
Bollworm	<i>Helicoverpa zea</i> (Boddie)
California oak moth	<i>Phryganidia californica</i> (Packard)
Cherry fruitworm	<i>Grapholita packardi</i> (Zeller)
Citrus cutworm	<i>Xylomyges curialis</i>
Codling moth	<i>Cydia pomonella</i> (Linnaeus)
Cotton leafperforator	<i>Bucculatrix thurberiella</i> (Busck)
Cotton leafworm	<i>Alabama argillacea</i> (Hubner)
Cutworms	various, family Noctuidae
Diamondback moth	<i>Plutella xylostella</i> (Linnaeus)
Douglas-fir tussock moth	<i>Orgyia pseudotsugata</i> (McDunnough)
Elm spanworm	<i>Ennomos subsignaria</i> (Hubner)
European corn borer	<i>Ostrinia nubilalis</i> (Hubner)
European Grapevine moth	<i>Lobesia botrana</i> *
European Pepper Moth	<i>Duponchelia fovealis</i>
Fall cankerworm	<i>Alsophila pometaria</i> (Harris)
Fall webworm	<i>Hyphantria cunea</i> (Drury)
Filbert webworm	<i>Melissopus latiferreanus</i> (Walsingham)
Fruittree leafroller	<i>Archips argyrospila</i> (Walker)
Grape leaffolder	<i>Desmia funeralis</i> (Hubner)
Grape Berry moth	<i>Paralobesia viteana</i>
Grapeleaf skeletonizer	<i>Harrisina americana</i> (Guerin)
Green cloverworm	<i>Plathypena scabra</i> (Fabricius)
Green fruitworm	<i>Lithophane antennata</i> (Walker)
Gypsy moth	<i>Lymantria dispar</i> (Linnaeus)
Helicoverpa spp.	<i>Helicoverpa spp.</i>
Heliothis spp.	<i>Heliothis spp.</i>
Hornworms	<i>Manduca spp.</i>
Imported cabbageworm	<i>Pieris rapae</i> (Linnaeus)
Jack pine budworm	<i>Choristoneura pinus</i> (Freeman)
Light brown apple moth	<i>Epiphyas postvittana</i>
Loopers	various
Mimosa webworm	<i>Homadaula anisocentra</i> (Meyri)
Naval orangeworm	<i>Amyelois transitella</i> (Walker)
Obliquebanded leafroller	<i>Choristoneura rosanceana</i> (Harris)
Omnivorous leafroller	<i>Platynota stultana</i>
Omnivorous leaf-tier	<i>Cnephasia longana</i> (Haworth)
Orange tortrix	<i>Argyrotaenia citrana</i> (Fernald)
Orangedog	<i>Papilio cresphontes</i> (Cramer)

Oriental fruit moth	<i>Grapholita molesta</i> (Busck)
Pandemis leafroller	<i>Pandemis pyrusana</i>
Peach twig borer	<i>Anarsia lineatella</i> (Zeller)
Pecan nut casebearer	<i>Acrobasis nuxvorella</i> (Neunzig)
Redbanded leafroller	<i>Argyotaenia velutinana</i> (Walker)
Redhumped caterpillar	<i>Schizura concinna</i> (J.E. Smith)
Rindworm complex	various
Roughskinned cutworm	<i>Athetis mindara</i> (Barnes & McDunnough)
Saltmarsh caterpillar	<i>Estigmene acrea</i> (Drury)
Sod webworm	<i>Crambus mutabilis</i>
Southwestern corn borer	<i>Diatraea grandiosella</i> (Dyar)
Spotted cutworm	<i>Xestia</i> spp.
Spring cankerworm	<i>Paleacrita vernata</i> (Peck)
Spruce budworm	<i>Choristoneura fumiferana</i> (Clemens)
Tent caterpillar	various, family Lasiocampidae
Tobacco budworm	<i>Helicoverpa virescens</i> (Fabricius)
Tobacco hornworm	<i>Manduca sexta</i> (Linnaeus)
Tomato pinworm	<i>Keiferia lycopersicella</i> (Walsingham)
Tropical sod webworm	<i>Herpetogramma phaeopteralis</i> (Guenee)
Tufted apple bud moth	<i>Platynota idaeusalis</i> (Walker)
Variiegated leafroller	<i>Platynota flavedana</i> (Clemens)
Velvetbean caterpillar	<i>Anticarsia gemmatalis</i> (Hubner)
Western tussock moth	<i>Orgyia vetusta</i> (Boisduval)

\*Apply at blackhead egg stage or when larvae are newly hatched before leaves are rolled or larvae have entered fruit. Continue application as necessary for larval control.

**For control of Light Brown Apple Moth:** Apply when newly hatched larvae appear and before leaves are rolled or webbing is significant.

**For control of Banana Moth:** Drench bark to newly emergent shoots following pruning or apply to susceptible plant tissues when banana moth larvae are active.

**For European Grapevine Moth:** Apply at blackhead egg stage or when larvae are newly hatched before leaves are rolled, or larvae have entered fruit.

**For European Paper Moth:** Begin applications at egg lay and continue at 3-5 day intervals throughout larval feeding period.

**For all pests:** Sprays should target small larvae, from newly-hatched to 2<sup>nd</sup> instar. High label rates may be required to control larger larvae. Continue applying as part of a normal spray program until pest is adequately controlled. Apply when caterpillars are actively feeding. To be effective, JAVELIN WG® spray must be deposited at the larval feeding site. Javelin WG® can be applied by ground or air in water sufficient to insure thorough and even coverage. Thorough

and uniform crop coverage is required for adequate insect control. Applications at higher water volumes have demonstrated improved control of targeted pests. Early morning or evening applications, when air is calm, are generally best for aerial applications.

### RATE SELECTION CONSIDERATIONS

Application rates 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 armyworm infestations exist.

**Upper rate ranges** may be desired for heavy worm infestations, mature (larger) worms or for moderate to heavy infestations of armyworm, bollworm, or other difficult to control worm species.

Unless otherwise stated, use the application rate 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.

### APPLICATION RATES

Crops	Lbs./Acre
-------	-----------

#### VEGETABLE CROPS, including but not limited to

Artichokes	0.50 - 1.25
------------	-------------

#### ADDITIONAL INSTRUCTIONS:

Apply in a minimum of 100 gal. of water per acre with a spray interval of 10 days or less.

Apply 1 lb./A in combination with ASANA® XL, AMBUSH®, or SUPRACIDE® 25-W aerially to aid in resistance management of the artichoke plume moth. Use and follow all label directions of the tank mix partner regarding application, timing, gallonage, and schedules.

Asparagus, Beans, (Green, Lima, Mung), Broccoli, Broccoli Raab (Rapini), Brussels Sprouts, Cabbage, Cardoon, Carrots, Cauliflower, Celery, 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 (Endive, Romaine, Head Lettuce, Escarole,	0.12 - 1.50
---	-------------

**Butter Crunch, Leaf, etc.), Melons (Cantaloupe, Crenshaw, Honeydew, Muskmelon, Watermelon, etc.), Okra, Onions, Parsley, Parsnips, Peas, Peppers, Potatoes, Pumpkins, Radishes, Rutabaga, Salsify, Spinach, Squash (Summer and Winter), Sweet Corn, Sweet Potatoes, Swiss Chard, Table Beets, Tomatoes, Turnip Root, Watercress, Yams**

ADDITIONAL INSTRUCTIONS:  
Apply as necessary to maintain control.

**FIELD CROPS, including but not limited to**

**Alfalfa (Hay and Seed), Sudan Grass, Hay Crops & Other Forage Crops** 0.25 - 1.50

ADDITIONAL INSTRUCTIONS:  
Under conditions of rapid plant growth and rapidly increasing armyworm populations (10 worms or greater per 180° sweep) use the highest rate. Against heterogeneous worm populations, where 4th and 5th instars are present and continuous egg laying is occurring, applications may provide variable control. Under these conditions, the addition of a contact insecticide in combination with JAVELIN® WG is recommended. The addition of a spreader sticker to JAVELIN® WG may provide improved performance.

**Canola and Evening Primrose** 0.12 - 1.50

ADDITIONAL INSTRUCTIONS:  
Apply as necessary to maintain control.

**Dry Beans and Peas, Lentils, Mint, Peanuts, Rice, Safflower, Soybeans, Sugar Beets, Sunflower, Sorghum** 0.25 - 1.50

ADDITIONAL INSTRUCTIONS:  
Apply as necessary to maintain control.

**Field Corn, Pop Corn, Seed Corn** 0.50 - 1.50

ADDITIONAL INSTRUCTIONS:  
Make initial application when economically damaging populations exist. Repeat as necessary to maintain control. Applications must be made to early instars prior to entering the ear or plant.

**Hops** 0.25 - 1.00

ADDITIONAL INSTRUCTIONS:  
Apply as necessary to maintain control.

Begin treatment as soon as possible after hatching and before larvae are protected by leaf folds.

**Jobba** 0.50 - 1.00

**ADDITIONAL INSTRUCTIONS:**

Apply in a minimum of 50 gallons of water per acre by ground equipment or a minimum of 10 gallons of water by aerial equipment. Thorough coverage of foliage is essential and dictates the minimum spray volumes necessary.

**Small Grains** 1.00 - 1.50

**ADDITIONAL INSTRUCTIONS:**

Apply as necessary to maintain control.

**Tobacco** 0.12 - 1.25

**ADDITIONAL INSTRUCTIONS:**

Apply as necessary to maintain control.

**Cotton** 0.50 - 1.50

**Including Arizona and California**

Early and Mid-Season

**ADDITIONAL INSTRUCTIONS:**

Repeat as necessary throughout season to maintain control. If egg laying frequency indicates future moderate to heavy worm populations, time application spray to coincide with the 2nd instar larvae. During periods of high temperatures, worms will progress through 1st and 3rd instars very rapidly and early application timing is necessary for control.

To be effective, JAVELIN® WG spray must be deposited at the larval feeding site. When plant cover is dense and worms are feeding in the lower 2/3 portion of the plant, aerial application of JAVELIN® WG may not provide adequate control.

For the suppression of light to moderate infestations, apply at first sign of egg-laying or newly-hatched worms (1st instar larvae).

**Cotton**  
**Except Arizona and California** 0.25 - 1.25

Early

**ADDITIONAL INSTRUCTIONS:**

For early season management of *Helicoverpa* and *Heliothis* species. Initiate applications when 50% of plants are at pinhead square cotton stage, independent of *Helicoverpa* and *Heliothis* egg and larval counts, or at 1st egg lay, whichever

occurs earlier. Continue applications on 5-day spray interval up to synthetic pyrethroid spray window. For added control of *Helicoverpa* and *Heliothis*, tank mixing of JAVELIN® WG with a labeled ovicide, such as, methomyl (0.125 lb. a.i./acre), profenofos (0.25 lb. a.i./acre), or thiodicarb (0.125-0.25 lb.a. i./acre) is recommended.

Read and follow all directions for use, precautions and restrictions on tank mix product labels.

**FRUIT, NUT & VINE CROPS, including but not limited to**

**Apples and Pears** 0.50 - 4.00

**ADDITIONAL INSTRUCTIONS:**

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

**Avocados** 0.50 - 1.25

**ADDITIONAL INSTRUCTIONS:**

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

**Bananas** 0.50 - 1.00

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

**Citrus** 0.25 - 1.50

**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.)

**Coffee** 0.25 - 4.00

**ADDITIONAL INSTRUCTIONS:**

Apply as necessary to maintain control.

**Blueberries, Caneberries,  
Currants, Kiwi** 0.25 - 1.00

**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**

0.50 - 1.25

**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**

0.25 - 4.00

**Filberts, 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 1lb. should be applied.

**Melons (Also see vegetables)**

0.50 - 0.75

**ADDITIONAL INSTRUCTIONS:**

Apply at first sign of hatch before larvae enter fruit. Repeat as necessary to maintain control.

**Strawberries**

0.25 - 1.50

**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 1/2 lb. of JAVELIN® WG may be used for the control of armyworm.

**Olives** 0.25 - 4.00

ADDITIONAL INSTRUCTIONS:  
Apply as necessary to maintain control.

**Tropical/Sub-Tropical Fruit** 0.25 - 4.00  
**Lychee, Sugar Apple, Papaya, Guava**

ADDITIONAL INSTRUCTIONS:  
Apply as necessary to maintain control. Begin treatment as soon as possible after hatching and before larvae are protected by leaf folds.

**SHADE TREES AND ORNAMENTALS** 0.12 - 1.25  
**(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 reinfestation 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** 1.00

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

**STORED SOYBEANS, GRAINS**  
**(Indian Meal Moth, Almond Moth)**

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 augured 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.

Bin Diameter (ft.)	Surface Area (sq. ft.)	Bushels (to 4 in. depth)	JAVELIN WG Rate (by weight)	
			Grams	oz.
8	50	13	21	0.75
12	113	30	50	1.75
16	201	53	85	3.00
20	314	84	120	4.25
24	452	120	185	6.50
28	615	163	255	9.00
32	804	214	326	11.50

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.

Stored grain may be treated anytime, but for best results, treat grain at the time it is placed into storage or shortly thereafter, or in the early spring prior to egg-laying. Full season control is normally experienced. Re-treat only if reinfestation occurs.

For the protection of bagged grain, apply spray mixture to entire grain mass, and mix thoroughly prior to bagging. JAVELIN® WG at 6 oz. by weight per 10 gallons of water will treat approximately 100 bushels.

Treated grain may be used at any time after treatment.

**Flowers and Ornamentals**

JAVELIN® WG may also be used on flowers and ornamentals outdoors and in the greenhouse at a rate of 0.25-1.50 lb. per 100 gallons of water for control of listed insects on this label.

**Guide for Small Spray Volume Mixing**

Rate Lbs. / A	Conversion Rate* Teaspoons / Gallon
1/4	1/2
1/2	1
1	2

\* 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 instruction must be disposed of according to Federal, State, or Local procedures.

**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, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### WARRANTY

Certis USA, L.L.C. 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 or 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.

### CHEMIGATION APPLICATIONS

Javelin® WG alone or in combination with other tank mixtures which are registered for sprinkler irrigation may be applied through irrigation systems.

Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer, or other appropriate tank-mixed agrichemicals. Agitation is necessary. Apply the pesticide continuously for the duration of the water application.

Apply this product only through sprinkler systems such as center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, or hand move. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about

calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water system are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

## **OPERATING INSTRUCTIONS**

### **Sprinkler Irrigation**

1. The system must contain a functional check-valve, vacuum relief valve, and low pressure drain appropriately located on the irrigated 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-operating 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.

### **Chemigation Systems Connected to Public Water Systems**

1. Public water system means a system for the provision to the public of piped water of 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 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 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.

## **CALIBRATION AND APPLICATION**

The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler irrigation equipment. Users should check with state and local regulatory agencies for potential use restrictions before applying any agricultural pesticide through sprinkler irrigation equipment.

### **Center Pivot Irrigation Equipment**

**(Use only with drive systems which provide uniform water distribution.)**

1. Determine the size of the area to be treated.
2. Determine the time required to apply 1/4-1/2 inch of water over the area to be treated when the system and injection equipment are operated at normal pressures recommended by the equipment manufacturer. Run the system at 80-95% of the manufacturer's rated capacity.
3. Using water, determine the injection pump output when operated at normal line pressure.
4. Do not use the end gun for applications of Javelin WG through Center Pivot Irrigation Equipment.
5. Determine the amount of Javelin WG required to treat the area covered by the irrigation system. (Refer to table for use rates.)
6. Add the required amount of Javelin WG all at once to sufficient water in the injection solution tank to meet the injection time requirements. (See Mixing Instructions section of this label.)
7. Maintain constant agitation in the injection solution tank during the injection period.
8. Inject Javelin WG at the end of the irrigation cycle in 1/4-1/2 inch of water or as a separate application to maximize the effectiveness of the insecticide.
9. Continue to operate the system until the Javelin WG solution has cleared the last sprinkler head.

### **Solid Set, Hand Move, and Moving Wheel Irrigation Equipment**

1. Determine the acreage covered by the sprinklers.
2. Fill the injection solution tank with water and adjust flow rate to use the contents over a 20 to 30-minute interval.
3. Determine the amount of Javelin WG required to treat the area covered by the irrigation system.
4. Add the required amount of Javelin WG into the same quantity of water used to calibrate the injection period. (See Mixing Instructions section of this label.)

5. Operate the system at the same pressure and time interval established during the calibration.
6. Maintain constant agitation in the injection solution tank during the injection period.
7. Inject Javelin WG at the end of the irrigation cycle in 1/4-1/2 inch of water or as a separate application to maximize the effectiveness of the insecticide.
8. Stop injection equipment after the treatment is completed. Continue to operate the system until the Javelin WG solution has cleared the last sprinkler head.

#### REGISTERED TRADEMARKS

Ambush<sup>®</sup> is a registered trademark of AMVAC

Asana<sup>®</sup> XL is a registered trademark of E.I duPont de Nemours and Co., Inc.

Supracide<sup>®</sup> 25-W is a registered trademark of Gowan Company.

JAVELIN<sup>®</sup> WG is a registered trademark of Certis USA, L.L.C.