



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number  
284136

### Application for Pesticide - Section I

1. Company/Product Number 59639-95	2. EPA Product Manager Marion J. Johnson, Jr.	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) KNACK Insect Growth Regulator	PM# 10	
5. Name and Address of Applicant (Include ZIP Code) Valent U.S.A. Corporation 1333 N. California Blvd., Suite 600 Walnut Creek, CA 94596-8025 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

### Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b>  OCT 9 2001
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

NOTIFICATION: Addition of pest, Lecanium Scale, to Apple and Pear crops.

### Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other _____			

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Linda Obrestad	Title Labeling Specialist	Telephone No. (Include Area Code) (925) 256-2791
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Linda Obrestad</i>	3. Title Labeling Specialist	
4. Typed Name Linda Obrestad	5. Date September 28, 2001	

1333 North California Blvd.  
Suite 600  
P.O. Box 8025  
Walnut Creek, CA 94596-8025  
(925) 256-2700



September 28, 2001

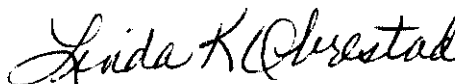
KNACK® Insect Growth Regulator  
EPA Reg No. 59639-95  
Notification: Pest Addition  
OPP. ID.No. 284136

**NOTIFICATION**

OCT 9 2001

### CERTIFICATION STATEMENT

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

A handwritten signature in cursive script that reads "Linda K. Obrestad".

Linda Obrestad  
Labeling Specialist  
Valent U.S.A. Corporation

1333 North California Blvd.  
Suite 600  
P.O. Box 8025  
Walnut Creek, CA 94596-8025  
(925) 256-2700



September 28, 2001

**Notification: Pest Addition**

**Submission Date: September 28, 2001**

**KNACK® Insect Growth Regulator**

**EPA Reg. No. 59639-95**

**ESTEEM® 35 WP Insect Growth Regulator**

**EPA Reg. No. 59639-115**

Mr. Marion J. Johnson, Jr. – PM-10  
Office of Pesticide Programs (7504C)  
Document Processing Desk (NOTIF)  
U.S. Environmental Protection Agency  
401 M Street S.W.  
Washington D.C. 20460-0001

Dear Mr. Johnson,

Valent USA is adding the pest, Lecanium Scale, to the apple and pear crops to the product labels (listed below). Enclosed are notification applications, labels (clearly marked in red), and certification statements.

KNACK Insect Growth Regulator – Opp ID. No. 284136 EPA Reg 59639-95  
ESTEEM 35 WP Insect Growth Regulator – Opp. ID. No. 284137 EPA Reg 59639-115

If you have any questions or need further information, please contact me at (925)256-2791.

Sincerely

A handwritten signature in cursive script that reads "Linda Obrestad".

Linda Obrestad  
Labeling Specialist  
Registration and Regulatory Affairs

Enclosures

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OCT 9 2001



REDLINE  
COPY

**KNACK®**

## INSECT GROWTH REGULATOR

Active Ingredient .....	By Wt. ....
Pyriproxyfen (2-[1-methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine) .....	11.23%
Other Ingredients .....	<u>88.77%</u>
Total.....	<u>100.0%</u>

**Contains 0.86 pound ai per gallon.**

**Contains aromatic petroleum distillates.**

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

**SEE BELOW FOR ADDITIONAL PRECAUTIONARY STATEMENTS**

**NET CONTENTS 1 GALLON**

Figure 1. The effect of the number of trials on the number of correct responses. The number of correct responses was significantly higher than the number of incorrect responses in all conditions. The number of correct responses was significantly higher than the number of incorrect responses in all conditions. The number of correct responses was significantly higher than the number of incorrect responses in all conditions.

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## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS & DOMESTIC ANIMALS

## CAUTION

Causes skin and eye irritation. Do not get on skin, in eyes, or on clothing. Harmful if inhaled, swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

#### FIRST AID

- |                                |                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>If on skin or clothing:</b> | <ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 - 20 minutes.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>                                                                                                             |
| <b>If in eyes:</b>             | <ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>                                                   |
| <b>If swallowed:</b>           | <ul style="list-style-type: none"><li>• Call poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul> |
| <b>If inhaled:</b>             | <ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>                                                 |

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

#### NOTE TO PHYSICIANS

If ingested, probable mucosal damage may contraindicate the use of gastric lavage. This product contains a light hydrocarbon liquid; ingestion or subsequent vomiting can result in aspiration of this product, which can cause pneumonitis.

### PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:** coveralls over short-sleeved shirt and short pants or long-sleeved shirt and long pants, chemical-resistant gloves, such as Barrier Laminate or Viton  $\geq 14$  mils, chemical-resistant footwear plus socks, chemical-resistant headgear for overhead exposure, chemical-resistant apron when cleaning equipment, mixing, or loading.

**Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.** 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.

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### 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:

This pesticide is toxic to fish and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by disposing of equipment washwaters or rinsate. Avoid direct application and/or spray drift to bee hives.

### DIRECTIONS FOR USE

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

**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

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 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 12 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 over short-sleeved shirt and short pants, chemical-resistant gloves, such as barrier laminate or viton  $\geq$  14 mils, chemical-resistant footwear plus socks, chemical-resistant headgear for overhead exposure.

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**DISCLAIMER, RISKS OF USING THIS PRODUCT,  
LIMITED WARRANTY  
AND LIMITATION OF LIABILITY**

**IMPORTANT:** Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

**RISKS OF USING THIS PRODUCT**

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Valent. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Valent shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

**LIMITED WARRANTY**

Valent warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. EXCEPT AS SET FORTH ABOVE, VALENT MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of Valent or Seller is authorized to make or create any other express or implied warranty.

**LIMITATION OF LIABILITY**

In no event shall Valent or Seller be liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF VALENT OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF VALENT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

**PROMPT NOTICE OF CLAIM**

Valent must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

If Buyer does not notify Valent of any claims, in such period, it shall be barred from obtaining any remedy.

**NO AMENDMENTS**

Valent and Seller offer this product, and Buyer accepts it, subject to the foregoing Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability, which may not be modified by any oral or written agreement.

**TANK MIXES**

**NOTICE:** Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor.

Read and follow the entire label of each product to be used in the tank mix with this product.

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## GENERAL INFORMATION

Do not apply this product through any type of irrigation system.

**KNACK is intended for use in Insect Pest Management (IPM) or Insect Resistance Management (IRM) programs. KNACK will not control insect adults, and it is recommended to be used in combination and/or rotation with other IPM or IRM materials. Contact your local state extension service for details.**

KNACK acts by suppressing embryogenesis within the insect egg and by inhibiting metamorphosis and adult emergence of target insects. KNACK has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since KNACK is an Insect Growth Regulator (IGR) and activity depends on the insects' development, evidence of activity will be slower than typical contact insecticides.

Small, faint, illegible text or markings, possibly bleed-through from the reverse side of the page.



## COTTON

### GENERAL

KNACK Insect Growth Regulator acts by suppressing embryogenesis within the insect egg and by inhibiting metamorphosis and adult emergence of target insects. KNACK has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since KNACK is an Insect Growth Regulator (IGR) and activity depends on the insects' development, evidence of activity will be slower than typical contact insecticides.

KNACK does exhibit translaminar movement which means that KNACK applied to the upper surfaces of the leaves will move to the lower surface of the leaf. This translaminar movement is very important to chemical control of whitefly since one of the major obstacles is getting the product to the underside of the leaves where whitefly are present.

CROP	PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Cotton	Banded Wing Whitefly Greenhouse Whitefly Silverleaf Whitefly Sweetpotato Whitefly	8 to 10 fl. oz.  Do not apply less than 8 fl. oz./A	Apply with air or ground equipment in adequate water for uniform coverage:  By Air: ..... 3 to 10 gals./A By Ground: .... 10 to 50 gals./A  <b>HIGHER WATER VOLUMES MAY PROVIDE IMPROVED INSECT CONTROL.</b>  Make only one application per growing season.  Begin applications when whiteflies reach threshold levels per University/Extension recommendations (e.g. 3 to 5 adults per leaf and/or equivalent levels of immatures).  Under severe pressure, use the higher recommended rates.  Only whole fields should be treated.
	<ul style="list-style-type: none"> <li>Do not apply within 28 days of harvest.</li> <li>Do not apply more than 10 fl. oz. KNACK Insect Growth Regulator per acre per season.</li> <li>Do not make more than 1 application of KNACK Insect Growth Regulator per growing season.</li> <li>Do not plant any crop other than those with registered pyriproxyfen uses in treated areas sooner than 30 days after last application.</li> </ul>		

**MANAGING WHITEFLY RESISTANCE:** Repeated use of the same class of insecticides or insecticides with similar modes of action can lead to the buildup of resistant whitefly strains. To optimize resistance management practices, Valent U.S.A. Corporation is restricting KNACK Insect Growth Regulator applications to a single application per growing season. KNACK Insect Growth Regulator may be used in alternation with other IGR materials possessing dissimilar modes of action and/or with other chemical classes of insecticides. Valent also does not recommend using rates below 8 fl. oz. per acre for whitefly control because reduced rates can lead to a greater potential for resistance development. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide.

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## APPLE

### GENERAL

KNACK Insect Growth Regulator acts by suppressing embryogenesis within the insect egg and by inhibiting metamorphosis and adult emergence of target insects. KNACK has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since KNACK is an Insect Growth Regulator (IGR) and activity depends on the insects' development, evidence of activity will be slower than typical contact insecticides.

CROP	PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Apple	Codling Moth  Suppression of: Leafroller Pandemis Oblique Banded	13 to 16 fl. oz.	<p>Apply by ground with airblast equipment in a minimum of 50 gals./acre. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage</p> <p><b>1st Generation Codling Moth:</b>            Apply at Biofix plus 100 degree days (this is usually close to petal fall). Make a second application 14 to 21 days later or timed to coincide with peak moth flights. For subsequent applications, if needed, apply other insecticides registered for Codling Moth control. The addition of oil has been shown to increase Codling Moth activity of KNACK. Follow local recommendations regarding in season use and rates of oil in your area.</p> <p><b>Oblique Banded and Pandemis Leafroller:</b> Apply to the overwintering larvae at the pink to petal fall tree growth stage. KNACK does not directly control the larvae but inhibits normal pupation and adult emergence.</p>
	Florida Red Scale Lecanium Scale San Jose Scale	13 to 16 fl. oz.	<p>Apply by ground with airblast equipment in a minimum of 50 gals./acre. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage</p> <p>Apply at delayed dormant through pink. For delayed dormant use a superior spray oil at the manufacturer's recommended rate of oil. Under heavy scale pressure, use the higher rate of KNACK.</p> <p><b>Scale:</b> For control in season make application in cover sprays when scale crawlers first emerge. The use of oil at the crawler emergence stage has been shown to improve control. Follow local recommendations regarding in season use and rates of oil in your area.</p>

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CROP	PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Apple (cont.)	Aphid Green Apple Rosy Apple Spirea Leafminer Spotted Tentiform Western Tentiform	10 to 16 fl. oz.	<p>Apply by ground with airblast equipment in a minimum of 50 gals./acre. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage</p> <p><b>Leafminers:</b> Apply at peak moth flight for control of 1<sup>st</sup> or 2<sup>nd</sup> generation. This usually occurs at Pre-pink to Pink apple stage for 1<sup>st</sup> generation and 2<sup>nd</sup> cover for 2<sup>nd</sup> generation.</p> <p><b>Rosy Apple Aphid:</b> Apply at 1/2" green apple growth stage.</p> <p><b>Spirea &amp; Green Apple Aphid:</b> Apply when aphids first appear, but before aphids are colonized.</p> <p><b>TIMING IS CRITICAL FOR ACCEPTABLE APHID CONTROL.</b></p>
<p>KNACK Insect Growth Regulator may be mixed and/or alternated with commonly used insecticides to comply with local IPM programs and resistance management programs.</p> <ul style="list-style-type: none"><li>• Do not apply within 45 days of harvest.</li><li>• Do not exceed two (2) KNACK applications per growing season.</li><li>• Do not exceed 32 fl. oz. of KNACK per acre per season.</li><li>• Do not apply earlier than 14 days after last KNACK treatment.</li></ul>			

**MANAGING INSECT RESISTANCE:** Repeated use of the same class of insecticides with similar modes of action can lead to the buildup of resistant insect strains. To optimize resistance management practices, Valent USA Corporation is restricting KNACK Insect Growth Regulator to two applications per growing season. KNACK may be used in alternation with other IGR materials possessing dissimilar modes of action and/or with other chemical classes of insecticides. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide.

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## PEAR

### GENERAL

KNACK Insect Growth Regulator acts by suppressing embryogenesis within the insect egg and by inhibiting metamorphosis and adult emergence of target insects. KNACK has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since KNACK is an Insect Growth Regulator (IGR) and activity depends on the insects' development, evidence of activity will be slower than typical contact insecticides.

CROP	PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Pear	Pear Psylla	13 to 16 fl. oz.	<p>Apply with ground equipment in 75 to 400 gals./A with a superior spray oil at manufacturer's recommended rates for the stage of growth.</p> <p>Apply a single application during the delayed dormant to "pink stage" of growth at 16 fl. oz./A or make two applications from delayed dormant through "petal fall" stage of growth at 13 to 16 fl. oz./A. Make application just before sustained egg lay is anticipated.</p> <p>It is essential to use adequate water volume to ensure thorough coverage.</p> <p><b>DO NOT USE SKIP ROWS DURING APPLICATION.</b></p> <p>For foliar in-season control of the summer form of pear psylla, use an insecticide recommended for this use.</p>
	Lecanium Scale San Jose Scale	13 to 16 fl. oz.	<p>Apply with ground equipment in 100 to 400 gals./A at delayed dormant with a superior spray oil at the manufacturer's recommended rates. Under heavy scale pressure, use the higher rate.</p> <p>Apply in sufficient water volume for tree size. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage.</p> <p>For control of scale in season make application in cover sprays when scale crawlers first emerge. The use of oil at the crawler emergence stage has been shown to improve performance. Follow local recommendations regarding in season use and rates of oil in your area.</p>

Bp

CROP	PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Pear (cont.)	Codling Moth	13 to 16 fl. oz.	Apply with ground equipment in 100 to 400 gals./A.
	Suppression of: Leafroller Oblique Banded Pandemis		<p><b>1st Generation Codling Moth:</b> Apply at Biofix plus 100 degree days. Make a second application 14 to 21 days later or timed to coincide with peak moth flights. For subsequent applications, if needed, apply other insecticides registered for Codling Moth control. The addition of oil has been shown to increase Codling Moth activity of KNACK. Follow local recommendations regarding in season use and rates of oil in your area.</p> <p>For additional generations apply other insecticides registered for Codling Moth Control.</p>
<p>KNACK Insect Growth Regulator may be mixed and/or alternated with commonly used insecticides to comply with local IPM programs and resistance management programs.</p> <ul style="list-style-type: none"><li>• Do not apply within 45 days of harvest.</li><li>• Do not exceed two (2) KNACK applications per growing season.</li><li>• Do not exceed 32 fl. oz. of KNACK Insect Growth Regulator per acre per season.</li><li>• Do not apply earlier than 14 days after last KNACK treatment.</li></ul>			

**MANAGING INSECT RESISTANCE:** Repeated use of the same class of insecticides with similar modes of action can lead to the buildup of resistant insect strains. To optimize resistance management practices, Valent USA Corporation is restricting KNACK Insect Growth Regulator to two applications per growing season. KNACK may be used in alternation with other IGR materials possessing dissimilar modes of action and/or with other chemical classes of insecticides. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide.

## CITRUS

### GENERAL

KNACK Insect Growth Regulator acts by suppressing embryogenesis within the insect egg and by inhibiting metamorphosis and adult emergence of target insects. KNACK has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since KNACK is an Insect Growth Regulator (IGR) and activity depends on the insects' development, evidence of activity will be slower than typical contact insecticides.

CROP	PESTS	PRODUCT RATES PER ACRE	SPECIAL INSTRUCTIONS
Citrus	Scale Black Brown Soft California Red Florida Red Snow Scale	16 fl. oz.	<p>Apply with ground equipment in 200 to 1500 gals./A. Apply in sufficient water volume for tree size. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage.</p> <p>Apply anytime prior to fruit becoming infested when scale is in the crawler stage. Thorough coverage is essential for good control.</p> <p>KNACK may be applied with superior spray oils at 1/2 to 1%. Follow the manufacturer's directions and recommendations on timing and rates.</p> <p>NOTE: For scale apply only one application during emergence of scale crawlers per calendar year.</p>
	Citrus Black Fly Citrus Leafminer Citrus Whitefly	8 to 10 fl. oz.	<p>Apply with ground application in 200 to 1500 gals./A. Apply in sufficient water volume for tree size. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage.</p> <p>Apply when pests are just beginning to build and before infestation has occurred. Thorough coverage is essential for good control.</p> <p>KNACK may be mixed and/or alternated with commonly used insecticides to comply with local IPM programs and resistance management programs.</p>
	<ul style="list-style-type: none"> <li>Do not apply within 1 day of harvest.</li> <li>Do not exceed 26 fl. oz. of KNACK per acre per season.</li> <li>Do not make more than two (2) KNACK applications per season.</li> <li>Do not apply earlier than 21 days after last KNACK treatment.</li> </ul>		

**MANAGING INSECT RESISTANCE:** Repeated use of the same class of insecticides with similar modes of action can lead to the buildup of resistant insect strains. To optimize resistance management practices, Valent USA Corporation is restricting KNACK Insect Growth Regulator to two applications per growing season. KNACK may be used in alternation with other IGR materials possessing dissimilar modes of

action and/or with other chemical classes of insecticides. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide

## TREE NUTS

### GENERAL

KNACK Insect Growth Regulator acts by suppressing embryogenesis within the insect egg and by inhibiting metamorphosis and adult emergence of target insects. KNACK has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since KNACK is an Insect Growth Regulator (IGR) and activity depends on the insect's development, evidence of activity will be slower than typical contact insecticides.

CROP	PESTS	PRODUCT RATE PER ACRE	SPECIAL INSTRUCTIONS
Almonds	San Jose Scale Black Scale  Suppression of: Peach Twig Borer	13 to 16 fl. oz.	<p>Apply with ground equipment in 100 to 400 gals./A. Coverage is essential for good control. Apply in sufficient water volume for tree size. Use of higher water volume will assure better coverage.</p> <p>Apply at either dormant, delayed dormant or an in season cover spray. At dormant, delayed dormant use a spray oil at the manufacturer's recommended oil rate. In a cover spray make applications when scale crawlers first emerge. Follow local recommendations regarding in season use and rates of oil in your area.</p> <p>KNACK has provided good suppression of Peach Twig Borer when applied delayed dormant through bloom sprays.</p>
<p>Almonds:</p> <p>Do not apply within 21 days of harvest.</p> <p>Do not exceed 1 KNACK application per growing season.</p> <p>Do not exceed 16 fl. oz. of KNACK per acre per season.</p>			
<p><b>MANAGING INSECT RESISTANCE:</b> Repeated use of the same class of insecticides with similar modes of action can lead to the buildup of resistant insect strains. To optimize resistance management practices, Valent U.S.A. Corporation is restricting KNACK Insect Growth Regulator to one application per growing season. KNACK may be used in alternation with other IGR materials possessing dissimilar modes of action and/or with other chemical classes of insecticides. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide.</p>			

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CROP	PESTS	PRODUCT RATE PER ACRE	SPECIAL INSTRUCTIONS
Beechnut Brazil Butternut Cashew Chestnut Chinquapin Filbert (Hazelnut) Hickory Macadamia Pecan Walnut	Codling Moth Dusky Veined Aphid Walnut Aphid	13 to 16 fl. oz.	Apply with ground equipment in 100 to 400 gals./A. Apply in sufficient water volume for tree size. Thorough coverage is critical for control. It is essential to use adequate water volume to ensure thorough coverage.  <b>1st Generation Codling Moth:</b> Apply at Biofix plus 100 degree days. Make a second application 14 to 21 days later or timed to coincide with peak moth flights. For subsequent applications, if needed, apply other insecticides registered for Codling Moth control. The addition of oil has been shown to increase Codling Moth activity of KNACK. Follow local recommendations regarding in season use and rates of oil in your area.
	Black Scale San Jose Scale Walnut Scale  Suppression of: Peach Twig Borer	13 to 16 fl. oz.	Apply with ground equipment in 100 to 400 gals./A at either dormant, delayed dormant or an in season cover spray. At dormant, delayed dormant use a spray oil at the manufacturer's recommended oil rate. In a cover spray make applications when scale crawlers first emerge. Follow local recommendations regarding in season use and rates of oil in your area.  Under heavy scale pressure, use the higher rate.  Coverage is essential for good control. Apply in sufficient water volume for tree size. Use of higher water volume will assure better coverage.
	KNACK Insect Growth Regulator may be mixed and/or alternated with commonly used insecticides to comply with local IPM programs and resistance management programs.  Do not apply within 21 days of harvest. Do not exceed two (2) KNACK applications per growing season. Do not exceed 32 fl. oz. of KNACK per acre per season. Do not apply KNACK earlier than 14 days after the last KNACK application.		

**MANAGING INSECT RESISTANCE:** Repeated use of the same class of insecticides with similar modes of action can lead to the buildup of resistant insect strains. To optimize resistance management practices, Valent USA Corporation is restricting KNACK Insect Growth Regulator to two applications per growing



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season. KNACK may be used in alternation with other IGR materials possessing dissimilar modes of action and/or with other chemical classes of insecticides. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide.

## FRUITING VEGETABLES

### GENERAL

KNACK Insect Growth Regulator acts by suppressing embryogenesis within the insect egg and by inhibiting metamorphosis and adult emergence of target insects. KNACK has no activity on adult insects, but hatching of eggs laid by treated adults will be suppressed. Since KNACK is an Insect Growth Regulator (IGR) and activity depends on the insects' development, evidence of activity will be slower than typical contact insecticides.

KNACK does exhibit translaminar movement which means that KNACK applied to the upper surfaces of the leaves will move to the lower surface of the leaf. This translaminar movement is very important to chemical control of whitefly since one of the major obstacles is getting the product to the underside of the leaves where whitefly are present.

CROP	PESTS	PRODUCT RATE PER ACRE	SPECIAL INSTRUCTIONS
Fruiting Vegetables  Eggplant Ground Cherry Pepino Pepper Tomatillo Tomato	Banded Wing Whitefly Greenhouse Whitefly Sweetpotato Whitefly Silverleaf Whitefly	8 to 10 fl. oz.  Do not apply less than 8 fl. oz./A of KNACK when used as a stand alone application	Apply with air or ground equipment in adequate water for uniform coverage: By air: 3 to 10 gals./acre. By Ground: 10 to 50 gals./acre.  <b>HIGHER WATER VOLUMES PROVIDE IMPROVED INSECT CONTROL.</b>  Begin application when whiteflies reach threshold levels per University/Extension recommendations (e.g. 3 to 5 adults per leaf and/or equivalent levels of immatures).  Under severe pressure, use the higher recommended rates.  Only whole fields should be treated.

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CROP	PESTS	PRODUCT RATE PER ACRE	SPECIAL INSTRUCTIONS
	Banded Wing Whitefly Cabbage Looper Green Peach Aphid Greenhouse Whitefly (immatures & adults) Silverleaf Whitefly Sweetpotato Whitefly Tobacco Hornworm	6 to 8 fl. oz.  +  ORTHENE® 75 S Soluble Powder 0.66 to 1.33 lbs./A  or  ORTHENE 97 0.5 to 1.0 lb./A	Apply as a tank mix with ground equipment for uniform coverage (25 to 150 gals./acre by ground). Make application when eggs or insects first appear. If control is needed during this period us an alternate insecticide registered for the target pest.  KNACK may also be mixed or alternated with commonly used insecticides to comply with local IPM programs.  Comply with all applicable directions, restrictions and precautions on the registered labels for ORTHENE 75 S Soluble Powder or ORTHENE 97.
Do not apply within 14 days of harvest. Do not exceed 20 fl. oz. KNACK Insect Growth Regulator per acre per season. Do not make more than two (2) KNACK applications per growing season. Do not apply KNACK earlier than 14 days after last KNACK application. Do not plant any crop other than those with registered pyriproxyfen uses in treated areas sooner than 30 days after the last application.			

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CROP	PESTS	PRODUCT RATE PER ACRE	SPECIAL INSTRUCTIONS
Tomato	Banded Wing Whitefly Beet Armyworm Fruitworms Greenhouse Whitefly (immatures & adults) Potato Aphid Silverleaf Whitefly Sweetpotato Whitefly Thrips Tomato Pinworm Yellowstriped Armyworm	6 to 8 fl. oz. + MONITOR @ 4 Spray 24 fl. oz. + DANITOL® 2.4 EC 10_ fl. oz.	<p><b>EARLY SEASON WHITEFLY CONTROL PROGRAM FOR REDUCTION OF GEMINIVIRUS:</b>            Apply as a tank mix with ground equipment for uniform coverage (10 to 120 gals./acre. Make application when scouting first indicates adult whiteflies are on young plants. <u>NOTE:</u> This may result in treatment immediately following transplanting.</p> <p><b>MID TO LATE SEASON WHITEFLY CONTROL PROGRAM FOR PREVENTION OF IRREGULAR FRUIT RIPENING:</b> Apply as a tank mix with ground equipment for uniform coverage (20 to 120 gals./acre by ground). Make application when scouting indicates whiteflies are present.</p> <p>KNACK may also be mixed or alternated with commonly used insecticides to comply with local IPM programs.</p> <p>Comply with all applicable directions, restrictions and precautions on the registered labels for MONITOR 4 Spray and DANITOL 2.4 EC Spray.</p>
	Do not apply within 14 days of harvest. Do not exceed 20 fl. oz. KNACK Insect Growth Regulator per acre per season. Do not make more than two (2) KNACK applications per growing season. Do not apply KNACK earlier than 14 days after last KNACK application. Do not plant any crop other than those with registered pyriproxyfen uses in treated areas sooner than 30 days after the last application.		

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**MANAGING INSECT RESISTANCE:** Repeated use of the same class of insecticides with similar modes of action can lead to the buildup of resistant insect strains. To optimize resistance management practices, Valent USA Corporation is restricting KNACK to two applications per growing season. KNACK may be used in alternation with other IGR materials possessing dissimilar modes of action and/or with other chemical classes of insecticides. Follow local, state, and federal IPM and Insect Resistance Management (IRM) recommendations. Read and follow all product labels before applying any insecticide.

## **STORAGE AND DISPOSAL**

### **PROHIBITIONS**

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

### **STORAGE**

Store in a cool dry place.

Keep pesticide in original container.

Keep container closed when not in use.

Do not put concentrate or dilute into food or drink containers.

Not for use or storage in or around the home.

For help with any spill, leak, fire or exposure involving this material, call day or night 1-800-892-0099.

### **PESTICIDE DISPOSAL**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### **CONTAINER DISPOSAL**

Triple rinse (or equivalent). Do not reuse container. Offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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MONITOR® - Reg. TM of Valent U.S.A. Corporation

ORTHENE® - Reg. TM of Monsanto Company

Manufactured for:

**Valent U.S.A. Corporation**

P.O. Box 8025

Walnut Creek, CA 94596-8025

[www.valent.com](http://www.valent.com)

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