

Biological Insecticide

XenTari®

Dry Flowable



FOR CALIFORNIA

ACTIVE INGREDIENT:

Bacillus thuringiensis, subsp. *aizawai*, Strain ABTS-1857,
 fermentation solids, spores and insecticidal toxins 54%
 OTHER INGREDIENTS 46%
 TOTAL 100%

Potency: 35,000 Diamondback Moth Units per mg of product
 or 15.9 billion Diamondback Moth Units per pound of product.
 The percentage active ingredient does not indicate product performance and potency measurements are not federally standardized.

EPA Reg. No. 73049-40

EPA Est. No. 33762-IA-001

List No. 12048

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**KEEP OUT OF REACH OF CHILDREN
CAUTION**

1.0

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor immediately for treatment advice.
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 and/or transport emergency information. For all other information, call 1-800-6-VALENT (682-5368).	

2.0

PRECAUTIONARY STATEMENTS

2.1

HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

CAUTION

Harmful if inhaled, or absorbed through the skin. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

2.2

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

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.

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.

Mixer/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

2.3

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.

2.4 Environmental Hazards

This product is toxic to 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. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This product is toxic to the green lacewing and the predatory mite *Metaseiulus occidentalis*.

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

3.0 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.

4.0 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 intervals. 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 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

5.0 NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

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

6.0 STORAGE AND DISPOSAL

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

Storage: Reclose containers of unused *XenTari*. Store in a dry place inaccessible to children and out of sunlight.

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:

Plastic Bottle: Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact Ag Container Recycling Council at 202-861-3144 or www.acrecycle.org. If recycling is not available 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.

Plastic Bag: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Completely empty bag into application equipment then 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.

7.0 DIRECTIONS FOR USE

See Chemigation section for Chemigation use directions. It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Days To Harvest: There are no restrictions on applying *XenTari*® up to the time of harvest. Individual state regulations may vary and should be consulted for allowable pre-harvest application intervals.

Sites: *XenTari* may be used for any labeled pest in both field and greenhouse use.

XenTari is an insecticide for use against listed caterpillars (larvae) or lepidopterous insects. Close scouting and early attention to infestations is highly recommended. Larvae must eat deposits of *XenTari* to be affected. Always follow these directions:

- Treat when larvae are young (early instars) before the crop is damaged.
- Larvae must be actively feeding on treated, exposed plant surfaces.
- Thorough spray coverage is needed to provide a uniform deposit of *XenTari* at the site of larval feeding. Use overhead and drop nozzles to obtain good spray coverage on both sides of foliage. Use sufficient spray volume to insure uniform deposition on all plant surfaces.
- Under heavy pest population pressure, use the higher label rates, shorten the spray interval, and/or raise spray volume to improve spray coverage.
- Repeat applications at an interval sufficient to maintain control, usually 3 to 14 days depending on plant growth rate, moth activity, rainfall after treating, and other factors. If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before crop damage occurs.

- A spreader-sticker which has been approved for use on growing and harvested crops should be added for hard-to-wet crops such as cabbage, or to improve weather-fastness of the spray deposits.
- *XenTari* may be tank mixed with other labeled insecticides to enhance control. Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions. No dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Before tank mixing *XenTari* with other labeled products, including spreader-stickers, check for tank mix compatibility.

After ingesting a lethal dose of *XenTari*, larvae stop feeding within the hour, and will die within several hours to 3 days. Mortality varies with larval size (instar), lepidopteran species, and dose consumed. Following ingestion, larvae become sluggish, discolor, then shrivel, blacken and die. Smaller larvae die more quickly.

XenTari may be applied in conventional ground or aerial equipment with quantities of water sufficient to provide uniform coverage of infested plant parts. The volume of water needed per acre will depend on crop development, relative humidity, spray equipment, and local experience. Usually, selection of moderate to high spray volume will provide the best results in most equipment. For optimal results, use at least 2 gallons of water per acre by air, except in arid areas, where 5 to 10 gallons are required. Add water to the mix tank and provide moderate agitation. With agitating, add the required amount of *XenTari*. Continue agitation and add other spray materials, if any. Add remaining water, if any, and agitate until fully mixed. Maintain the suspension with moderate agitation while loading and spraying. Do not mix more *XenTari* than can be used in a 3 day period.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all of these factors when making decisions.

For Smaller Spray Volumes

If Rate is	Use This Amount Per Gallon (wt)
1/4 lb./acre or 100 gals.	1/2 tsp. (0.04 oz.)
1/2 lb./acre or 100 gals.	1 tsp. (0.08 oz.)
1 lb./acre or 100 gals.	2 tsps. (0.16 oz.)
2 lb./acre or 100 gals.	4 tsps. (0.32 oz.)

8.0 CHEMIGATION USE DIRECTIONS

Refer to these label sections under **General Instructions** for application rate information when Chemigation is used. Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation systems. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

8.1 Spray Preparation

First prepare a suspension of *XenTari* in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of *XenTari*, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of *XenTari* into the irrigation water line so as to deliver the desired rate per acre. The suspension of *XenTari* should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

NOTE: When treatment with *XenTari* has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the material off the crop.

9.0 GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS

Maintain continuous agitation in the mix tank during the mixing and application to insure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume for a more dilute solution per unit time.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from nonuniform distribution of treated water. 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. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

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

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

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.

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. Do not apply when wind speed favors drift beyond the area intended for treatment.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

10.0 GENERAL INSTRUCTIONS/APPLICATION RATE

10.1	Crop Group (Miscellaneous)	Pests	Pounds/Acre
	Alfalfa (Hay and Seed), Hay and Other Forage Crops	Loopers	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
	Berries and Small Fruit such as Grapes, Strawberries, Blackberries, Cranberries, Raspberries, and Blueberries	Grapeleaf Skeletonizer	1/2 - 1 ¹ / ₂
		Loopers	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
		Tobacco Budworm	1/2 - 2
		Grape Berry Moth	1/2 - 2
		Spanworm	1/2 - 1 ¹ / ₂
	Bulb such as Garlic and Onions (green and bulb)	Loopers	1/2 - 1 ¹ / ₂
		Hornworm	1/2 - 1 ¹ / ₂
		Imported Cabbageworm	1/2 - 1 ¹ / ₂
		Diamondback Moth ²	1/2 - 1 ¹ / ₂
		Webworm	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
		Cross-striped Cabbageworm	1/2 - 1 ¹ / ₂
	<i>Heliothis</i>	1/2 - 2	
	Cucurbit Vegetables such as Melons, Cucumbers and Squash	Loopers	1/2 - 1
		Armyworms ¹	1/2 - 2
		Cutworms	1/2 - 2
	Flowers, Bedding Plants and Ornamentals (ground application only)	Loopers	1/2 - 1 ¹ / ₂
		Tobacco Budworm	1/2 - 1 ¹ / ₂
		Diamondback Moth ²	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
	Fruiting Vegetables such as Tomatoes, Peppers and Eggplant	Loopers	1/2 - 1 ¹ / ₂
		Hornworm	1/2 - 1 ¹ / ₂
		Tomato Fruitworm	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
	Greenhouse/ Shadehouse and Outdoor Nursery Crops such as Leafy Herbs, Brassica and Fruiting groups	Loopers	1/2 - 1 ¹ / ₂
		<i>Heliothis</i>	1/2 - 2
		Armyworms ¹	1/2 - 2
	Herbs, Spices and Mints such as Basil, Chives, Dill, Leeks and Peppermint	Loopers	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2

10.1	Crop Group (Miscellaneous)	Pests	Pounds/Acre
	Leafy and Cole Crops such as Lettuce (head and leaf), Kale, Celery, Spinach, Broccoli, Cabbage, Mustard Greens, Brussel Sprouts, Cauliflower, Collards, Chinese Cabbage, Endive, Kohlrabi, and Parsley	Loopers	1/2 - 1 ¹ / ₂
		Imported Cabbageworm	1/2 - 1 ¹ / ₂
		Diamondback Moth ²	1/2 - 1 ¹ / ₂
		Webworm	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
		Cross-striped Cabbageworm	1/2 - 1 ¹ / ₂
		<i>Heliothis</i>	1/2 - 2
		Loopers	1/2 - 1 ¹ / ₂
		Soybean Looper	1/2 - 2
		Armyworms ¹	1/2 - 2
	Legume Vegetables (succulent or dried) and foliage of legume vegetables such as Beans, Peas, Lentils and Soybeans	Loopers	1/2 - 1 ¹ / ₂
		Imported Cabbageworm	1/2 - 1 ¹ / ₂
		Diamondback Moth ²	1/2 - 1 ¹ / ₂
		Webworm	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
		Cross-striped Cabbageworm	1/2 - 1 ¹ / ₂
		<i>Heliothis</i>	1/2 - 2
		Loopers	1/2 - 1 ¹ / ₂
		Imported Cabbageworm	1/2 - 1 ¹ / ₂
		Diamondback Moth ²	1/2 - 1 ¹ / ₂
	Root and Tuber such as Artichokes, Carrots, Potatoes, Beets and Sugar Beets	Webworm	1/2 - 1 ¹ / ₂
		Armyworms ¹	1/2 - 2
		Cross-striped Cabbageworm	1/2 - 1 ¹ / ₂
	Leaves of Root and Tuber Vegetables (human food or animal feed) such as Turnip, Garden Beet or Sugar Beet	<i>Heliothis</i>	1/2 - 2
		Armyworms ¹	1/2 - 2
	Stone Fruit such as Cherry, Plum, Peach, Prune and Nectarine	Armyworms ¹	1/2 - 2
		Armyworms ¹	1/2 - 2
	Pome Fruit such as Apples and Pear	Armyworms ¹	1/2 - 2
		Armyworms ¹	1/2 - 2
	Tree Nuts such as Almond, Pecan, Walnut, and Filbert	Armyworms ¹	1/2 - 2
		Armyworms ¹	1/2 - 2
	Pomegranates	Armyworms ¹	1/2 - 2
		Armyworms ¹	1/2 - 2
	Cereal Grains (ground application only)	Loopers	1/2 - 2
		Armyworms ¹	1/2 - 2
	Tropical Fruits	Armyworms ¹	1/2 - 2
		Loopers	1/2 - 2

CONTINUED

10.2

Crop Group (Other Crops)	Pests	Pounds/ Acre
Asparagus	Armyworms ¹	1/2 - 2
Avocado	Armyworms ¹	1/2 - 2
Bananas	Armyworms ¹	1/2 - 2
Canola (Rape)	Looper	1/2 - 2
	Armyworms ¹	1/2 - 2
	<i>Heliothis</i>	1/2 - 2
Citrus Fruits	Armyworms ¹	1/2 - 2
Corn (Sweet, Field, Seed and Popcorn) Sorghum	<i>Heliothis</i> ³	1/2 - 2
	Armyworms ¹	1/2 - 2
	European Corn Borer	1/2 - 2
Cotton	Loopers	1/2 - 2
	Armyworms ¹	1/2 - 2
Hops	Loopers	1/2 - 2
	Armyworms ¹	1/2 - 2
Kiwifruit	Armyworms ¹	1/2 - 2
Malanga	Armyworms ¹	1/2 - 2
Peanuts	Armyworms ¹	1/2 - 2
	Loopers	1/2 - 1 ¹ / ₂
	Podworms ¹	1/2 - 1 ¹ / ₂
Pineapple	Armyworms ¹	1/2 - 2
	Gummosos- Batrachedra comosae (Hodges)	1/2 - 1 ¹ / ₂
	Thecla-Thecla basilides (Geyr)	1/2 - 1 ¹ / ₂
Safflower	Loopers	1/2 - 2
	Armyworms ¹	1/2 - 2
Sunflowers (ground appli- cation only)	Armyworms ¹	1/2 - 2
	Loopers	1/2 - 2
Tobacco	Armyworms ¹	1/2 - 2
	Tobacco Budworm	1/2 - 2
	Loopers	1/2 - 2
Turf	Armyworms ¹	1/2 - 2
	Sod Webworm	1/2 - 2
Watercress (spray only when there is no standing water in the bed)	Loopers	1/2 - 2
	Armyworms ¹	1/2 - 2
	Diamondback Moth	1/2 - 1 ¹ / ₂

¹ *XenTari* may be used to control armyworms and/or podworms. For best results, apply full coverage sprays when 1st or 2nd instar larvae are present. Repeat treatment as necessary. Under rapidly increasing populations, use the highest labeled rate, or tank-mix with a contact insecticide. Against heterogeneous armyworm populations where 4th and 5th instar larvae are present, a contact insecticide in combination with *XenTari* should be used to enhance control.

² For best results, use a ground applicator, a minimum of 50 gallons total mix per acre, 50-100 psi and 3-7 nozzles per bed.

³ Use *XenTari* alone to suppress light to moderate populations of *Heliothis* on corn or sorghum. A contact insecticide in combination with *XenTari* is recommended to control moderate to heavy populations.

11.0 NOTICE TO BUYER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

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