

## IR-4 Environmental Horticulture Virtual Workshop Sept 2021

# Basin T and Basin-Flex

Daniel Peck
Director of Field Development
Vestaron Corporation
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## **Basin-T and Basin Flex**

- Introduced to IR-4 as <u>VST-7300</u> in 2020
- Under EPA Review (submitted Mar 2021)

MASTER LABEL - containing:

Sublabel A. Basin®-T: Greenhouse and Field Use

Sublabel B, Basin® Flex: Greenhouse and Field Use in Tank Mixes with Bt



#### In Water Soluble Packets Biological Insecticide/Miticide

 Active Ingredient:
 8.5%

 U1-AGTX-Ta1b-QA
 8.5%

 Other Ingredients:
 91.5%

 Total:
 100.0%

## KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See Inside Booklet for Additional Precautionary Statements and Directions for Use

	FIRST AID
lf in eyes	Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.
	<ul> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> </ul>
	<ul> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
If on skin or clothing	Take off contaminated clothing.
	<ul> <li>Rinse skin immediately with plenty of water for 15 – 20 minutes.</li> </ul>
	<ul> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
	HOTLINE NUMBER
	ainer or label with you when calling a poison control center or doctor, or going for treatment. You 0-535-5053 for emergency medical treatment information and chemical emergency

EPA Est. No.: XXXXXX-XX-XXX

Lot No: XXXX

EPA Reg. No.: 88847-XXXX
Net Contents:\_\_\_\_\_[Gal] [lb
Made in USA

Manufactured for:

Vestaron Corporation 600 Park Offices Drive, Suite 117 PO Box 13137 Research Triangle Park, NC 27709







## Basin-T and Basin Flex

- Introduced to IR-4 as <u>VST-7300</u> in 2020
- Under EPA Review (submitted Mar 2021)
- Like Spear
  - Bioinsecticide with peptide active ingredient
  - Contact efficacy against smaller, soft-bodied insects/mites (Basin T)
  - Ingestion efficacy against lepidopteran larvae when combined with Bt facilitator (Basin Flex)
  - Same fit for environmental horticulture

MASTER LABEL - containing:

Sublabel A. Basin®-T: Greenhouse and Field Use

Sublabel B. Basin® Flex: Greenhouse and Field Use in Tank Mixes with Bt

## Basin<sup>®</sup>

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- Rinse skin immediately with plenty of water for 15 20 minutes.
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EPA Reg. No.: 88847-XXXX Net Contents:

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If in eyes

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  - Bioinsecticide with peptide active ingredient
  - Contact efficacy against smaller, soft-bodied insects/mites (Basin T)
  - Ingestion efficacy against lepidopteran larvae when combined with Bt facilitator (Basin Flex)
  - Same fit for environmental horticulture
- Unlike Spear
  - Active ingredient U1-AGTX-Ta1b-QA
  - Targets the insect nervous system at distinct site and likely a new IRAC group
  - 8.5% dry flowable formulation (4-oz WSP)

MASTER	LABEL -	containing:
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Sublabel A. Basin®-T: Greenhouse and Field Use

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## **Basin-T**

Sublabel A: Greenhouse and Field Use

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#### Produced for:

Vestaron Corporation 600 Park Offices Drive, Suite 117 PO Box 13137 Research Trianale Park, NC 27709 EPA Reg. No.: 88847-XXXX

EPA Est. No.: Printed on Container

Made in USA

NET CONTENTS: 40 x 4 oz. packets (10 lbs.)

SALXXXX REV031221v1.4

Стор	Insect/Mite Pest
Field Vegetables:  Vegetables, Root and Tuber (Group 1), such as: Beet, Carnot, Potato, Radish, Sugarbeet  Vegetable, Bulb (Group 3), such as: Garlic, Leesk, Onion (Green and Bulb)  Vegetable, Leafy Except Brassica (Group 4), such as: Celery, Endive, Lettluce, Parsley, Spinach  Vegetable, Brassica Leafy (Group 5), such as: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Chinese Cabbage, Collards, Kale, Kohirabi, Mustard Greens  Vegetable, Legume (Group 6), such as: Bean, Lentil, Pea, Soybean  Vegetable, Fruiting (Group 8), such as: Eggplant, Pepper, Tomato  Vegetable, Cucurbit (Group 9), such as: Cucumber, Melon, Squash, Watermelon	Plant-feeding Mites, such as: Broad Mite Lewis Mite Twospotted Spider Mite Psyllids, such as: Potato Psyllid Thrips, such as: Onion Thrips Tobacco Thrips Western Flower Thrips Whiteflies, such as: Sweetpotato Whitefly
Field Fruit and Berries: Fruit, Citrus (Group 10), such as: Grapefruit, Lemon, Lime, Orange Fruit, Pome (Group 11), such as: Apple, Pear Fruit, Stone (Group 12), such as: Cherry, Nectarine, Peach, Plum, Prune Berry (Group 13), such as: Blackberry, Blueberry, Grape, Raspberry, Strawberry	Plant-feeding Miles, such as: Broad Mile Citrus Rust Mile Twospotted Spider Mile Psyllids, such as: Asian Citrus Psyllid Pear Psylla Spotted-wing Drosophila, Thrips, such as: Western Flower Thrips
Tree Nuts (Group 14-12)	Plant-feeding Mites, such as: Broad Mite Pacific Spider Mite Twospotted Spider Mite
Hemp	Aphids, such as: Cotton/Melon Aphids Green Feach Aphid Flant-feeding Miles, such as: Broad Mile Twospotted Spider Mite Thips, such as: Onion Thrips Tobacco Thrips Western Flower Thrips
Hops	Plant-feeding Mites, such as: Broad Mite Lewis Mite Twospotted Spider Mite
Tobacco	Aphids, such as: Green Peach Aphid Thrips, such as: Tobacco Thrips

Сгор	Insect/Mite Pest
Greenhouse Vegetables:  Vegetable, Root and Tuber (Group 1), such as: Beet, Carrot, Potato, Radish, Sugarbeet  Vegetable, Bulb (Group 3), such as: Garlic, Leek, Onion (Green and Bulb)  Vegetable, Leafy Except Brassica (Group 4), such as: Celery, Endive, Lettuce, Parsley, Spinach  Vegetable, Brassica Leafy (Group 5), such as: Broccoll, Brussels Sprouts, Cabbage, Cauliflower, Chinese Cabbage, Collards, Kale, Kohlrabi, Mustard Greens  Vegetable, Legume (Group 6), such as: Bean, Lentil, Pea, Soybean  Vegetable, Fruiting (Group 8), such as: Bean, Lentil, Pea, Tomato  Vegetable, Cucurbit (Group 8), such as: Cucumber, Melon, Squash, Watermelon	Aphids, such as: Green Peach Aphid Plant-feeding Mites, such as: Broad Mite Lewis Mite Twospotted Spider Mite Spotted-wing Drosophila Thrips, such a Onion Thrips Tobacco Thrips Western Flower Thrips Whiteflies, such as: Greenhouse Whitefly Sweetpotato Whitefly
Greenhouse/Nursery Flowers and Ornamental Plants, such as: Bedding Plants, Container Stock, Cut Flowers, Ornamental Flowers, Ornamental Plants	
Greenhouse Herbs and Mint, such as: Basil, Chive, Cilantro, Dill, Mint, Parsley, Rosemary, Sage, Thyme	
Greenhouse Fruit Fruit, Citrus (Group 10), such as: Grapefruit, Lemon, Lime, Orange Fruit, Stone (Group 12), such as: Cherry, Nectarine, Peach, Plum, Prune Berry (Group 13), such as: Blackberry, Blueberry, Grape, Raspberry, Strawberry	

#### **USE DIRECTIONS FOR FIELD AND ORCHARD CROPS**

Use high pressure for application of the spray solution. Apply 1-6 lb. of Basin per acre. Better coverage and penetration of crop canopy is usually achieved when smaller spray droplets are applied. Use very fine nozzles to create a fine spray mist. Use of a non-ionic or blended organosilicone surfactant at 0.125% (v/v) to improve coverage may increase performance. Repeat applications at 3-10-day intervals depending upon plant growth rate, pest activity and other factors.





## **Basin Flex**

Sublabel B: Greenhouse and Field Use in Tank Mixes with Bt

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EPA Reg. No.: 88847-XXXX EPA Est. No.: Printed on Container Made in USA

**NET CONTENTS:** 40 x 4 oz. packets (10 lbs.) SALXXXX REV031221v1.4

#### USE Basin® Flex IN A TANK MIX WITH Bt ON THE FOLLOWING CROPS

Vegetable and Cole Crops:

Vegetable, Root and Tuber (Group 1), such as:

Beet, Carrot, Horseradish, Potato, Radish, Sugar Beet, Sweet Potato, Turnip, Turnip Greens

Vegetable, Bulb (Group 3), such as:

Garlic, Leek, Onion, Shallot

Vegetable, Leafy Except Brassica (Group 4), such as:

Celery, Endive, Lettuce, Parsley, Spinach

Vegetable, Brassica Leafy (Group 5), such as:

Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collard, Kohlrabi

Vegetable, Legume (Group 6), such as:

Bean, Lentil, Pea, Soybean

Vegetable, Fruiting (Group 8), such as:

Egaplant, Pepper, Tomato

Vegetable, Cucurbit (Group 9), such as:

Cucumber, Melon, Pumpkin, Squash, Watermelon

Other Vegetables

Artichoke, Asparagus, Malagna, Watercress

Alfalfa (Hay Seed), Canola, Corn (Field, Sweet, Popcorn), Cotton, Forage Crops, Hay, Hops, Jojoba, Peanut, Rapeseed, Rice, Safflower, Small Grains, Sorghum, Sunflower

Herbs, Mints (Group 25) such as:

Basil, Oregano, Peppermint, Thyme

#### Fruits, Nuts

Small Fruits and Berries (Group 10), such as:

Blackberry, Blueberry, Cranberry, Currant, Grape, Raspberry, Strawberry

Pome Fruits (Group 11), such as:

Apple, Pear, Quince

Stone Fruits (Group 12), such as:

Apricot, Cherry, Nectarine, Peach, Plum

Tree Nuts (Group 14-12), such as:

Almond, Chestnut, Hazelnut/Filbert, Pecan, Pistachio, Walnut

Avocado, Banana, Citrus, Kiwi, Persimmon, Pineapple, Pomegranate, Tropical Fruits

#### Bedding Plants, Container Plants, Flowers, Ornamentals

Greenhouse Crops and Outdoor Nursery Crops, such as:

Brassicas, Flowers, Fruiting groups, Herbs and Spices, Leafy Vegetables, Ornamental plants, Vegetable Groups

Forest, Ornamentals, Ornamental Fruit, Shade Trees, Shrubs, Sugar Maple Trees, Nut and Citrus Trees

#### PESTS CONTROLLED BY Basin® Flex IN A TANK MIX WITH Bt

Colorado Potato Beetle'

\*Apply in a tank mix with the low labeled rate of a beetle active Bt. such as Bt ssp. tenebrionis

Lepidopteran Larvae (caterpillars, loopers, "worms")\*, such as:

\*Apply in a tank mix with the low labeled rate of a lepidopteran active Bt, such as Bt ssp. kurstaki, or Bt ssp.

Alfalfa Caterpillar

Amorbia spp

Armyworms

Artichoke Plume Moth

Azalea Caterpillar

Bagworms

Banana Moth

**Bollworms** 

Browntail Moth

**Buck Moth** 

Budworms, such as

Blackheaded, Jack Pine,

Spruce, Tobacco California Oakworm

Case Bearers, such as

Pecan Nut

Cankerworms

Chainspotted Geometer

Codling Moth

Coneworms

Cornborers, such as

European, Southwestern

Corn Earworm

Cotton Bollworm

Cotton Leafperforator

Cotton Leafworm

Cutworms, such as Citrus,

Cranberry, Roughskinned,

Spotted.

Varigated

Diamondback Moth

Eastern Grapevine Moth

Eastern Tent Caterpillar

European Pepper Moth Filbertworm

Fruitworms, such as

Cherry, Cranberry, Green, Tomato

Grape Berry Moth

Grape Leaffolder

Grapeleaf Skeletonizer

Headworms

Heliothis spp

Hornworms

lo Moth

Leaftier

Leek Moth

Melonworm

Helicoverpa spp.

Hickory Shuckworm

Leafrollers, such as

Loopers, such as

Navel Orangeworm

Oleander Caterpillar

Imported Cabbageworm

Green Cloverworm

Greenstriped Mapleworm

Gypsy Moth

Filbert, Fruittree, Obliquebanded,

Omnivorous, Redbanded

Alfalfa, Cabbage, Hemlock,

Omnivorous, Soybean

Satin Moth

Skippers, such as

Orangedog

Pickleworm

Rindworms

Orange Tortex

Oriental Fruit Moth

Peach Twig Borer

Orangestriped Oakworm

Pineapple feeding Catepillars.

such as Thecla basilides

Saddleback Caterpillar

Saddled Prominent

Saltmarsh Caterpillar

Banana, Essex, European

Soybean Podworm

Spanworms, such as

Bruce, Cranberry, Currant, Elm

Sunflower Moth

Tomato Pinworm

Tuffed Apple Bud Moth

Tussock Moths, such as

Douglas-fir, Hickory, Western

Pine. Whitemarked

Velvetbean Caterpillar

Walnut Caterpillar

Webworms, such as

Cabbage, Fall, Filbert,

Mimosa

Winter Moth





## Crop and Pest targets in 2021

## **Basin T Targets in 2021**

- Broad mite
  - Pepper
- Silverleaf whitefly
  - Rose, Tomato
- Two-spotted spider mite
  - Blackberry
  - Chrysanthemum
  - Cucurbits
  - Tomato
- Western flower thrips
  - Blackberry
  - Cucurbits
  - Pepper
  - Rose
  - Tomato

## **Basin-Flex Targets in 2021**

- Alfalfa caterpillar
- Beet armyworm Brassicas, Corn, Lettuce, Pepper, Tomato

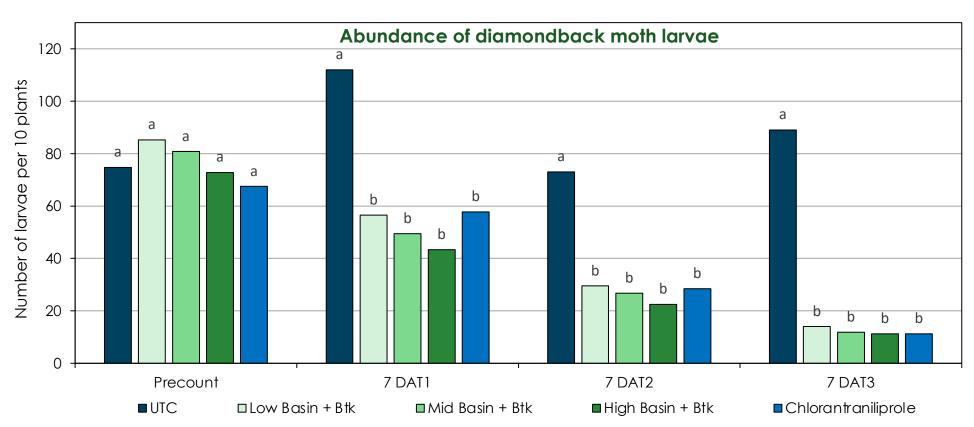
Alfalfa

- Browntail moth Shade trees
- Cabbage looper Brassicas, Cucurbits
- Codling moth Apple, Pear
- Corn earworm Corn, Hemp, Pepper
- Diamondback moth Brassicas
- Fall armyworm Corn, Rice
- Fireworms Cranberry
- Fruitworms Blackberry
- Hops looper Hops
- Melonworm/Pickleworm Cucurbits
- Navel orangeworm Almond
- Obliquebanded leafroller Apple
- Oriental fruit moth Peach
- Peach twig borer Peach
- Soybean looper Soybean
- Tobacco budworm Tobacco
- Tomato fruitworm Tomato
- True armyworm Corn, Rice



## **Basin Flex**

## Broccoli Diamondback Moth Mexico, 2021



#### **Trial Outcomes**

- Basin Flex (+Btk) at 225, 337 and 450 g/ha provides control equivalent to chlorantraniliprole against diamondback moth larvae
- Basin Flex (+Btk) gave 84-87% control, chlorantraniliprole 87%, based on the last rating date
- There was a numerical, but not statistically rate response across 3 rates of Basin Flex

Diamondback Moth Plutella xylostella

### **Trial Summary**

#### **Researcher:**

- Conviviendo con la Naturaleza
- Pedro Posos Ponce
- Pajacuarán, Nayarit, Mexico

#### Design:

- RCBD
- 4 replicates
- Plots 22.4 sq m

#### **Treatments:**

- VST-7300 @ 225, 337, 450 g/ha with Btk (DiPel) @ 500 g/ha
- Chlorantraniliprole (Coragen 20 SC) 200 mL/ha
- Broccoli var Italica

### **Applications:**

- 3 at 7-day intervals
- NIS (Break Through) at 0.125% v/v
- Spray volume 286 L/ha





# IR-4 Assistance for Efficacy Data

## **Basin-T Needs Going Forward**

- Current commercialization challenges mean no requests for IR-4 within environmental horticulture
- Will consider specific opportunities for projects related to insecticide resistance or pest problems without solutions

## **Basin Flex Needs Going Forward**

- Broader performance data for certain labelled use sites
  - Flowers, bedding plants, container plants, nurseries
  - Forest, ornamental and shade trees
- Co-application with facilitators (gut disruptors) besides Bt kurstaki
  - Bt ssp. aizawai for other lep species
  - Bt ssp. tenebrionis or ssp. galleriae for beetle species
- Role as rotational product
  - Resistance management programs





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