

AZATIN® XL

BOTANICAL INSECTICIDE

FOR INDOOR AND OUTDOOR USE ON ORNAMENTALS, TURF, AGRONOMIC AND HORTICULTURAL CROPS

ACTIVE INGREDIENT:

Azadirachtin*	3.0%
INERT INGREDIENTS	97.0%
	100.0%

*Contains 0.265 pounds (120 grams) of azadirachtin per gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

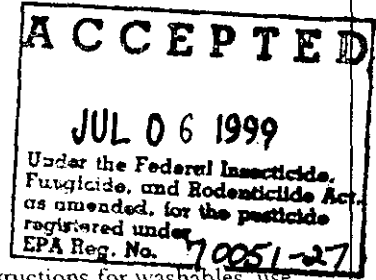
CAUTION: Harmful if swallowed or inhaled. Avoid breathing vapors or spraymist. Causes eye irritation. Do not get in eyes. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- chemical resistant gloves such as barrier laminate or Viton (≥ 14 ml)
- shoes plus socks, and
- protective eye wear.

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.



STATEMENT OF PRACTICAL TREATMENT

- If in Eyes: Flush eyes with plenty of water. Call a physician if irritation persists.
- If Inhaled: Move to fresh air. Clear lungs and airways. Get medical attention if irritation develops.
- If on Skin: Wash with plenty of soap and water. Get medical attention if irritation develops.
- If Swallowed: Do not induce vomiting. Contact a physician immediately.

USER SAFETY RECOMMENDATIONS

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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 may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

If you have questions or comments regarding the use of this product, please call (800) 250-5024
 Net contents: 1 quart
 Thermo Trilogy Corporation
 Suite 175
 9145 Guilford Road
 Columbia, MD 21046

E.P.A. Registration No. 70051-27
 E.P.A. Est. No. 44616-MC-03
 Lot No. _____

Directions For Use

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

Long-sleeved shirt and long-pants, chemical resistant gloves such as barrier laminate or Viton (≥ 14 ml), shoes plus socks, and protective eye wear.

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 Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or greenhouses. For other uses including golf courses, and other non-agricultural uses, do not enter treated areas without protective clothing until sprays have dried.

Pests controlled by AZATIN-XL

Ants

Argentine Ant

Aphids:

Alfalfa Aphid
Apple Aphid
Bean Aphid
Cabbage Aphid
Cooty Spruce Aphid
Corn Root Aphid
Cotton Aphid
Cow pea Aphid
Eastern Spruce Gall Aphid
Grapevine Aphid
Green Peach Aphid
Hickory Leafstem Gall Aphid

Hop Aphid
Melon Aphid
Pea Aphid
Pine bark Aphid
Potato Aphid
Red Aphid
Rose Aphid
Russian Wheat Aphid
Spruce Gall Aphid
Strawberry Aphid
Tobacco Aphid
White Root Aphid
Woolly Apple Aphid
Woolly Hemlock Aphid
Yellow Pecan Aphid

Armyworms, such as:

Beet Armyworm
Fall Armyworm
Lawn Armyworm
Southern Armyworm
Yellow Striped Armyworm

Bagworms

Beetles, Grubs, and Weevils,

such as:
Alfalfa Weevil
Banded Cucumber Weevil
Bean Leaf Weevil
Bean Weevil
Billbugs

Black Vine Weevil
 Blister Beetle
 Bluegrass Weevil
 Cigarette Beetle
 Cowpea Beetle
 Colorado Potato Beetle
 Cucurbit Beetle
 Douglas Fir Beetle
 Dusky Sap Beetle
 Elm Bark Beetle
 Elm Leaf Beetle
 Flea Beetle
 Grape Phylloxera
 Green June Beetle
 Ips Bark Beetle
 Japanese Beetle
 Japanese Weevil
 June Beetle
 May Beetle
 Mexican Bean Beetle
 Mexican Bean Weevil
 Mountain Pine Beetle
 Pales Weevil
 Pine Bark Weevil
 Pine Root Collar Weevil
 Pecan Weevil
 Plum Curculio
 Rose Chafer
 Southern Pine Beetle
 Southern Corn Rootworm
 Spotted Cucumber Beetle
 Strawberry Weevil
 Strawberry Root Weevil
 Sweet Potato Beetle
 Two Banded Japanese Weevil
 Twig Girdles
 Western Corn Rootworm
 White-Fringed Beetle
 White Pine Weevil
 Wireworms

Borers, such as:
 Azalea Stem Borer
 Bronze Birch Borer
 Dogwood Twig Borer
 Dogwood Borer
 Iris Borer
 Lilac Borer
 Mint Root Borer
 Oak Borer
 European corn Borer
 Southwestern Corn Borer
 Peachtree Borer
 Peachtwig Borer
 Rhododendron Borer

Budworms, such as:
 Blackhead Budworms
 Spruce Budworms
 Tobacco Budworms
 Western Spruce Budworms

Bugs, such as:
 Alfalfa Plant Bug
 Boxelder Bug
 Chinch Bug
 Green Bug
 Lygus Bug
 Southern Brown Stink Bug
 Southern Green Stink Bug
 Squash Bug
 Tarnished Plant Bug

Cankerworms, such as:
 Fall Cankerworm
 Spring Cankerworm

Caterpillar and Loopers, such as:
 Alfalfa Caterpillar
 Blackhead Budworm
 Cabbage Butterfly
 Cabbage Looper
 Corn Ear Worm
 Cranberry Fruitworm
 Dagger-moth
 Diamondback Moth
 Green Clover Worm
 Horn Worm
 Hickory Shuck Worm
 Imported Cabbage Worm
 Melon Rind Worm
 Naval Orange Worm
 Orange Tortrix
 Pecan Nut Casebearer
 Pickleworms
 Pink Bollworm
 Range Caterpillar
 Red Humped Caterpillar
 Soybean Looper
 Salt Marsh Caterpillar
 Tent Caterpillar
 Tobacco Budworm
 Tobacco Hornworm
 Tomato Fruitworm
 Tomato Pinworm
 Velvetbean Caterpillar
 Grape Leaf Skeletonizer

Centipedes

Chafers, such as:
 European Chafer

Northern Masked Chafer
 Rose Chafer
 Southern Masked Chafer

Crickets, such as:
 Mole Cricket
 Mormon Cricket

Cutworms, such as:
 Black Cutworm
 Citrus Cutworm
 Climbing Cutworm
 Western Bean Cutworm
 Variegated Cutworm

Flies, such as:
 Caribbean Fruit Fly
 Crane Fly
 Fungus Gnat
 Hessian Fly
 Mushroom Fly
 Oriental Fruit Fly
 Phorid Fly
 Mediterranean Fruit Fly
 Melon Fly
 Shore Fly
 Walnut Husk Fly

Grasshoppers and Locusts Leaf Tiers and Leafholders

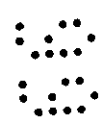
Leafhoppers, such as:
 Grape Leafhopper
 Potato Leafhopper
 Variegated Leafhopper

Leafminers, such as:
 Boxwood Leafminer
 Citrus Leafminer
 Elm Leafminer
 Holly Leafminer
 Serpentine Leafminer
 Vegetable Leafminer

Leafrollers, such as:
 Blueberry Leafroller
 Grape Leafroller
 Filbert Leafroller
 Fruitree Leafroller
 Oblique Banded Leafroller
 Omnivorous Leafroller

Leaf perforators Marsh Crane Flies

Midges, such as:



Chrysanthemum Gall Midge
Douglas Fir Midge
Rose Midge
Millipedes

Mites, such as:

Banks Mite
Clover Mite
Citrus Rust Mite
Citrus Red Mite
European Red Mite
Hemlock Rust Mite
Honey Locust Mite
Pacific Mite
Spruce Mite
Two-spotted Mite

Moth, such as:

Amorbia
Almond Moth
Artichoke Plume Moth
Codling Moth
Cranberry Girdle Moth
European Pine Shoot Moth
Grape Berry Moth
Gypsy Moth
Head Moth
Oriental Fruit Moth
Pine Tip Moth
Sunflower Bud Moth
Sunflower Moth
Tiger Moth
Tobacco Hornworm Moth
Tufted Apple Bud Moth
Tussock Moth

Nematodes, such as:

Banana Nematode
Citrus Nematode
Cyst Nematode
Dagger Nematode
Lesion Nematode
Ring Nematode
Root Knot Nematode
Stem Nematode

Phylloxera, such as:

Grape Phylloxera

PsyllidsSawfliesScales, such as:

Azalea Bark Scale
Black Scale
Brown Soft Scale
California Red Scale
Camellia Scale
Coffee Scale
Cottony-cushion Scale
Fern Scale
Florida Red Scale
Green Scale
Juniper Scale
Pine Needle Scale
Purple Scale
Rose Scale
San Jose Scale
Sugar Pine Scale
Tea Scale
Wax Scale

Sowbugs(Pillbugs)Thrips, such as:

Citrus Thrips
Flower Thrips
Gladiolus Thrips
Onion Thrips
Pear Thrips
Thrips palmi
Tobacco Thrips
Western Flower Thrips

Webworms, such as:

Fall Webworms
Sod Webworm

Whiteflies, such as:

Ash Whitefly
Banded-wing Whitefly
Bayberry Whitefly
Citrus Whitefly
Cloudy-winged Whitefly
Greenhouse Whitefly
Silverleaf Whitefly
Sweetpotato Whitefly
Variegated Whitefly
Wolly Whitefly

CROPS ON WHICH AZATIN-XL CAN BE USED

AZATIN-XL can be used indoors and outdoors. Plants may be potted, grown in the soil or soil-less mixtures or grown hydroponically.

BEDDING PLANTS, FLOWERS, POTTED PLANTS AND FOLLIAGE, such as:

Actinopteris	Baby's Breath	Carnation
African Violet	Begonia	Chrysanthemum
Aglaonema	Bougainvillea	Coleus
Allamanda	Boston Fern	Columbine
Algerian Ivy	Boxwood	Dahlia
Alocasia	Brachycome	Daisy
Anthurium	Cacti	Daylily
Aphelandra	Calabrese	Delphinium
Artemesia	Caladium	Dianthus
Aster	Calla	Dieffenbachia
Aucuba Ilex	Calathea	Dusty Miller
Azalea	Calendula	Easter Lily

English Ivy
 Euphoria
 Fern
 Ficus
 Foxglove
 Freesia
 Fuchsia
 Gaillardia
 Gardenia
 Geranium
 Gerbera
 Gladioli
 Gloxinia
 Gypsophilla
 Hedera
 Hibiscus
 Impatiens
 Iris
 Lily
 Manvilla
 Marigold
 Nasturtium
 Pansy
 Pelargonium
 Peony
 Peperomia
 Petunia
 Philodendron
 Phlox
 Photinia
 Pittloporum
 Pinks
 Poinsettia
 Pothos
 Portulaca
 Primrose
 Rosemary
 Rose
 Rubberplant
 Salvia
 Schefflera
 Sedum
 Sempervivum
 Snapdragon
 Spathiphyllum
 Stock
 Syngonium
 Verbena
 Vinca
 Wandering Jew
 Zinnia

ORNAMENTALS, such as:

African Violet
 Ageratum
 Arvborvitae

Aster
 Aucuba Illex
 Azalea
 Begonia
 Boxwood
 Cacti
 Calendula
 Calla
 Camella
 Camellia
 Carnation
 Ceanothus
 Crysanthemum
 Cineraria
 Coleus
 Cotoneaster
 Cyclemen
 Daffodil
 Dahlia
 Delphinium
 Dogwood
 Ficus
 Foliage Plants
 Fuchsia
 Gardenia
 Geranium
 Gloxinia
 Hyacinth
 Hydrangea
 Iris
 Ivy
 Lily
 Maidenhair Fern
 Marigold
 Narcissus
 Orchid
 Pansy
 Pelargonium
 Peony
 Phlox
 Photinia
 Pittosporum
 Poinsettia
 Pyracantha
 Rhododendron
 Rose
 Rubber Plant
 Snapdragon
 Stock
 Tulip
 Wandering Jew
 White Cedar
 White Pine
 Yew
 Yucca
 Zinnia

TREES AND SHRUBS, such as:

Andromeda
 Arborvitae
 Ash
 Austrian Pine
 Azalea
 Beech
 Birch
 Birdnest Spruce
 Blue spruce
 Boxwood
 Butternut
 Cedar
 Chamaecyparis
 Cherry
 Crabapple
 Cotoneaster
 Cyprus
 Dogwood
 Douglas fir
 Elm
 Euonymus
 Firethorn
 Forsythia
 Hackberry
 Hawthorn
 Hemlock
 Hickory
 Holly
 Honey Locust
 Horse Chestnut
 Juniper
 Larch
 Laurel
 Lilac
 Linden
 Londo Plane
 Magnolia
 Manvilla
 Maple
 Mimosa
 Moutain Ash
 Myrtle
 Oak
 Pachysandra
 Peach
 Pine
 Planetree
 Poplar
 Privet
 Quince
 Spruce
 Sycamore

TURFGRASS, such as:

Bentgrass
 Bermuda grass
 Bluegrass
 Annual Bluegrass
 Centipede Grass
 Fescue
 Ryegrass
 Annual Ryegrass
 Perennial Ryegrass
 St. Augustine
 Wheatgrass
 Zoysia Grass

BRASSICA (Cole) CROPS,

such as:

Broccoli
 Brussels Sprouts
 Bok Choy
 Cabbage
 Chinese cabbage
 Cauliflower

BULB VEGETABLES, such as:

Garlic
 Leek
 Onion
 Shallot

CEREAL GRAINS, such as:

Barley
 Buckwheat
 Corn, field
 Corn, sweet
 Corn, pop
 Millet
 Oats
 Rice
 Rye
 Sorghum
 Triticale
 Wheat

CITRUS FRUITS, such as:

Calamandin
 Citrus citron
 Grapefruit
 Kumquat
 Lemon
 Limes
 Mandarin (tangerine)
 Orange, sour
 Orange, sweet
 Pummelo
 Satsuma Mandarin

CUCURBIT VEGETABLES,

such as:

Balsam pear (bitter melon)
 Chinese waxgourd
 Citron Melon
 Cucumber
 Gherkin
 Gourds
 Cantaloupe
 Casaba
 Crenshaw
 Honeydew
 Honeyballs
 Mango Melon
 Pumpkin
 Squash
 Watermelon

FIBER CROPS, such as:

Cotton
 Flax
 Kenaf

FORAGE AND FODDER

CROPS, such as:

Alfalfa
 Annual Ryegrass
 Bermuda Grass
 Bluegrass
 Clover
 Fescue
 Hay (Mixed)
 Kudzu
 Lespedeaz
 Lupine
 Orchard grass
 Pasture (Mixed)
 Perennial Ryegrass
 Redtop
 Sainfoin
 Timothy
 Trefoil
 Vetches
 Wheatgrasses

FRUITING VEGETABLES,

such as:

Eggplant
 Ground Cherry
 Pepinos
 Peppers
 Tomatillo
 Tomato

HERBS AND SPICES, such as:

Anise

Balm
 Basil
 Borage
 Burnnet
 Camomile
 Caraway
 Catnip
 Chives
 Celery
 Coriander
 Costmary
 Cumin
 Curry Leaf
 Dandelion
 Dill
 Fennel
 Fenugreek
 Horehound
 Hyssop
 Mint
 Marigold
 Marjoram
 Nasturtium
 Pennyroyal
 Rosemary
 Rue
 Sage
 Savory
 Sweet Bay
 Tansy
 Tarragon
 Thyme
 Wintergreen
 Woodruff
 Wormwood

LEAFY VEGETABLES, such as:

Chinese Spinach
 Celery
 Chervil
 Collards
 Corn salad
 Chrysanthemum (edible)
 Cress
 Endive
 Fennel
 Kale
 Kohlrabi
 Lettuce
 Mustard Greens
 Orach
 Parsley
 Rhubarb
 Spinach
 Swiss Chard

Turnip tops

LEGUMINOUS CROPS, such

as:

- Beans (Phaseolus, Lupinus,
- Vicia, Vigna spp)
- Chick Peas (garbanzos)
- Lentil
- Peas (Pisum spp)
- Soybeans

NUTS, such as:

- Almond
- Beech nut
- Brazil nut
- Butternut
- Cashew
- Chestnut
- Chinquapin
- Filberts (hazelnuts)
- Hickory Nuts
- Lychee
- Macadamia
- Pecan
- Pistachio
- Walnuts

OIL SEED CROPS, such as:

- Canola
- Castors
- Crambe
- Guar
- Jojoba
- Peanuts
- Rape
- Safflower
- Sesame
- Soybean
- Sunflower

POME FRUITS, such as:

- Apple
- Crabapple
- Loquat
- Mayhaws
- Pear
- Quince
- Jujube

ROOT AND TUBER CROPS,

such as:

- Beet, red

- Beet, sugar
- Carrot
- Cassava
- Celeriac
- Chervil
- Dasheen (taro)
- Ginger
- Horseradish
- Jicama
- Parsnips
- Potato
- Radish
- Radish, Japanese (Daikon)
- Rutabaga
- Salisfy
- Sweet potato
- Tumeric
- Turnip
- Yam
- Yam Bean

STONE FRUITS, such as:

- Apricot
- Cherry, sour
- Cherry, sweet
- Nectarine
- Peach
- Plum
- Prune

SMALL FRUITS AND

BERRIES, such as:

- Blackberry
- Blueberry
- Boysenberry
- Cranberry
- Current Dew Berry
- Elderberry
- Gooseberry
- Grape
- Huckleberry
- Loganberry
- Olives
- Olallie, berry
- Raspberry
- Strawberry
- Youngberry

TROPICAL FRUITS, such as:

- Abiu
- Atemoya
- Breadfruit

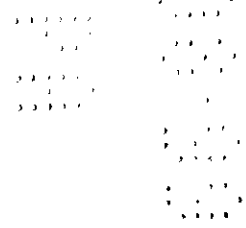
- Banana
- Cherimoya
- Durian
- Guava
- Longan
- Malanga
- Mango
- Mangosteen
- Papaya
- Passion Fruit
- Plantain
- Rambutan
- Starfruit

MISCELLANEOUS CROPS,

such as:

- Artichoke
- Asparagus
- Avocados
- Birdseed
- Cardone
- Coffee
- Cacao
- Edible flowers
- Feijoa
- Figs
- Hops
- Guayule
- Kiwi
- Mushrooms
- Agaricus
- Oyster
- Chitake
- Okra
- Palm
- Papaya
- Pawpaw
- Persimmon
- Pineapple
- Sugar Cane
- Tamarillo
- Tea
- Tobacco
- Waterchesnut
- Watercress

NON-CROP AREAS:
RANGELAND
BARRIER STRIPS RIGHTS OF
WAY WASTELANDS.,



Important Note: This product has been evaluated for phytotoxicity on a wide range of crops. However, since all combinations or sequences of pesticide sprays including fertilizers, surfactants and adjuvants have not been tested, it is recommended that a small area be sprayed first to make certain that no phytotoxicity occurs.

PREHARVEST INTERVAL

There are no restrictions on applying this product up to the time of harvest. Individual state regulations may vary and should be consulted for allowable pre-harvest interval.

MODE OF ACTION:

This product controls targeted insect larvae when they ingest or come in contact with it, by interfering with the insect's ability to molt. It is effective on all larval stages and pupae. It also reduces crop damage by repelling and deterring feeding of all stages of insects.

GENERAL APPLICATION DIRECTIONS

READ ALL DIRECTIONS BEFORE USING.

Dilute AZATIN XL in water at a rate up to 21 fluid ounces (20 grams active ingredient) per acre. Apply using any suitable ground or aerial equipment, in a manner to obtain uniform and complete plant coverage. For agronomic crops apply using conventional application equipment in a minimum of 30 gallons of water per acre and aerial application equipment in a minimum of 3 gallons of water per acre. Avoid over-spraying to the point of excessive runoff. The maximum application rate is 20 grams of active ingredient or less per acre according to the tolerance exemption (40 CFR 180.1119). Refer to tables for detailed dilution rates.

Application Rates for Whitefly and Other Greenhouse(Including Lathe and Shade), Nursery and Interiorscape Pests

Apply AZATIN XL at the recommended use dilution rate in 100 gallons of water to assure adequate plant coverage (usually 1-2 gallons of spray solution/1,000 sq. feet).

Pests Controlled by Azatin XL	Rate of Azatin XL per 100 gallons water	Remarks
Sweetpotato Whitefly (including strain B)	10 to 16 oz.	Foliar application to larvae and nymphs.
Greenhouse Whitefly	10 to 16 oz.	Foliar application to larvae and nymphs.
Fungus Gnats	8 oz.	Apply as soil drench for maggot control.
Western Flower Thrips	12 to 16 oz.	Suppression of larvae and adult feeding Deterrence.
Aphids	12 to 16 oz.	Suppression and adult feeding deterrence.
Leafminers	10 to 16 oz.	Foliar application to larvae.
Armyworms	10 to 16 oz.	Foliar application to larvae.
Others		
Bagworms	10 to 16 oz.	Foliar application to nymphs/larvae.
Borers		
Budworms		
Cankerworms		
Cutworms		
Gypsy Moths		
Leafhoppers		
Leafrollers		
Sawflies		
Tent Caterpillars		
Webworms		
Black Vine Weevil	21 oz./acre	Soil and foliar application to larvae.
Mushroom Fly	21 oz./acre	Apply as soil drench for maggot control.

Application Rates for Key Insect Pests in Vegetables, Fruits, Nuts and Agronomic Crops

Apply AZATIN XL at the recommended use rates in sufficient water to assure adequate coverage
(Conventional application equipment apply in a minimum of 30 gallons water per acre)
(Aerial application equipment apply in a minimum of 3 gallons water per acre)

Pests controlled by Azatin XL	Rate Azatin XL per Acre*	Remarks
Aphids, such as:		
Cotton Aphid	10 to 16 oz.	Foliar application, for suppression only
Greenpeach Aphid	10 to 16 oz.	
Hop Aphid	10 to 16 oz.	
Potato Aphid	10 to 16 oz.	
Armyworms, such as:		
Beet Armyworm	5 to 16 oz.	Foliar application to larvae
Fall Armyworm	5 to 16 oz.	
Southern Armyworm	5 to 16 oz.	
Yellow Stripe Armyworm	5 to 16 oz.	
Beetles, such as:		
Colorado Potato Beetle	5 to 16 oz.	Foliar application to larvae
Borers, such as:		
Peachtwig Borer	5 to 16 oz.	Foliar application to larvae
Corn Earworm	10 to 21 oz.	
Caterpillars, such as:		
Artichoke Plume Moth	16 to 21 oz.	Foliar application to larvae
Cabbage Butterfly	10 to 21 oz.	
Corn Earworm	10 to 21 oz.	
Diamondback Moth	10 to 16 oz.	
Fruitree Leafroller	5 to 16 oz.	
Grape Leafroller	5 to 16 oz.	
Hickory Shuck Worm	10 to 21 oz.	
Imported Cabbage Worm	5 to 16 oz.	
Navel Orangeworm	10 to 21 oz.	
Omnivorous Leafroller	5 to 16 oz.	
Tobacco Budworm	5 to 16 oz.	
Tobacco Hornworm	5 to 16 oz.	
Tomato Fruitworm	5 to 16 oz.	
Western Grapeleaf Skeletonizer	5 to 16 oz.	
Cutworms, such as:		
Citrus Cutworm	5 to 16 oz.	Foliar application to larvae
Blackworm Cutworm	5 to 10 oz.	
Variegated Cutworm	5 to 10 oz.	
Loopers, such as:		
Cabbage Looper	5 to 10 oz.	Foliar application to larvae
Soybean Looper	5 to 10 oz.	
Leafminers, such as:		
Citrus Leafminer	10 to 16 oz.	Foliar application to larvae. Use with Citrus
Serpentine Leafminer	10 to 16 oz.	
Vegetable Leafminer	10 to 16 oz.	

Application Rates for Key Insect Pests in Vegetables, Fruits, Nuts and Agronomic Crops (cont.)

Apply AZATIN XL at the recommended use rates in sufficient water to assure adequate coverage
(Conventional application equipment apply in a minimum of 30 gallons water per acre)
(Aerial application equipment apply in a minimum of 3 gallons water per acre)

Pests controlled by Azatin XL	Rate Azatin XL per Acre*	Remarks
Leafhoppers, such as:		
Grape Leafhopper	10 to 16 oz.	Foliar application to nymphs. Use Equipment to target the underside of Leaves.
Variegated Leafhopper	10 to 16 oz.	
Scales, such as:		
Coffee Scale	10 to 16 oz.	Foliar Application
Whiteflies, such as:		
Greenhouse Whitefly	10 to 21 oz.	Foliar application to nymphs. Use Equipment to target undersides of leaves.
Sweet Potato Whitefly	10 to 21 oz.	
Silverleaf Whitefly	10 to 21 oz.	

*When using lower rates (less than 10 oz.), combine Azatin-XL with an approved adjuvant such as a non-phytotoxic crop oil, up to 1%. Always ensure good coverage by adjusting spray gallonage. Treat early for best control. Do NOT use less than 10 oz. In California.

Applications should be made when pests first appear and are in their early larval stages. Repeat applications every 7 days or as needed.

For best results, a spreader-sticker should be added at the recommended label use.

Dilute solutions containing Azatin®-XL should be maintained at a pH between 3 and 7, and applied soon after preparation. Do not store for later use.

This product may be pre-mixed in a supply tank with water, fertilizer or other appropriate agricultural chemicals. Agitation is necessary (See Mixing Directions). Crop injury or lack of effectiveness can result if uniform distribution is not achieved.

When pest populations are high, use the higher label rates.

SPRAY:

High Volume-When plant foliage is dense, use the higher label rates and increase spray gallonage to obtain uniform and complete coverage.

Aerial/Low/ultra low volume-Apply Azatin®-XL at rates of 5 to 21 oz./acre (10-21 oz. In California) in a minimum of 3 gallons of water per acre. For best results, ensure uniform and complete plant coverage.

DRENCH/CHEMIGATION:

This product is effective as a soil drench for controlling soil-borne insect larvae (e.g. Fungus Gnats).

It is also effective as a soil drench for controlling foliar and soil-borne pests, particularly when alternated with Azatin®-XL foliar sprays.

Apply Azatin®-XL in sufficient water and for sufficient duration so as to distribute the recommended rate evenly to the entire treated area.

Apply to moderately moist soils. Use volumes that thoroughly wet the soil, but do not cause significant surface runoff or excessive drip from pots.

CHEMIGATION:

Refer to supplemental labeling entitled "Thermo Trilogy's Chemigation Bulletin" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

TURFGRASS:

Use Directions

Azatin®-XL should always be applied as a spray in sufficient water to assure thorough coverage of the foliage or soil, depending on the type of application.

Equipment – Use suitable ground or aerial equipment that allows for uniform coverage of the targeted treatment area, such as hand or power-operated spray equipment, or hose-end application.

Application – For surface feeders – For control of armyworms, sod webworms, (Crambus spp) cutworms, and leafhoppers in turfgrass, apply Azatin®-XL at a rate up to 21 fluid ounces (0.5 fl. oz./1,000 sq. ft.) per acre. Use the higher label rates for moderate to heavy insect infestations.

Subsurface feeders – For control of white grubs, chinch bugs, and billbugs in turfgrass: Apply at a rate up to 21 fl. oz./acre (0.5 fl. oz./1,000 sq. ft.) per application. Sprinkle irrigate with 1 to 2 inches of water following treatment. Repeat application as needed.

Irrigate well before applying. Repeat application as needed. Use up to 5 gallons of water per 1,000 square feet (43 to 218 gallons/A) to obtain good coverage. For all applications use sufficient water rate to obtain thorough uniform coverage.

Alternative turf use directions (a):

This product should always be applied as a spray in sufficient water to assure thorough coverage of the foliage depending on the type of application.

Equipment – Use suitable ground equipment that allows for uniform coverage of the targeted treatment area, such as hand-operated spray equipment, or hose-end applicators.

Application – For surface feeder – For control of armyworms, sod webworms, (Crambus spp) cutworms, and leafhoppers in turfgrass, apply at a rate of 10-21 fluid ounces (0.25 – 0.5 fl. oz./1,000sq. ft.) per acre. Use the higher label rates for moderate to heavy insect infestation.

Alternate turf use directions (b):

Dilute this product in water at a rate of 10 to 20 fluid ounces/100 gallons. Repeat application every 7 days or as needed.

Product should always be applied as a spray in sufficient water to assure thorough coverage of the foliage or soil depending on the type of application.

SPRAY EQUIPMENT

Use suitable equipment that allows for uniform coverage of the targeted treatment area, such as hand or power-operated spray equipment.

APPLICATIONS: Surface feeders: For control of armyworms, cutworms, and sod webworms in turfgrass: Apply at a rate of 10 to 20 fluid ounces (0.25 to 0.5 fluid ounces per 1,000 square feet) per acre. Use the higher label rates for moderate to heavy infestations. Use 1-5 gallons of water per 1,000 square feet (43 to 218 gallons/A) to obtain good coverage. Irrigate well before applying. For all applications use sufficient water to obtain thorough uniform coverage.

MIXING DIRECTIONS

AZATIN®-XL WITH WATER:

For best results,

1. Use clean equipment.
2. Fill tank 1/2 full to 3/4 full with water and begin agitation.
3. Add pesticide to the tank.
4. Fill the tank completely with water and mix thoroughly before applying.
5. Adjust spray solution to between 3 to 7 pH, if necessary.
6. Pesticide mix should be applied immediately after mixing.
7. If the mixture is not applied immediately, agitate before application.
8. Thoroughly clean equipment following application.

TANK MIXTURES OR FLUID FERTILIZERS:

1. Before using this product in a tank mix with fertilizer or registered pesticide, determine compatibility by conducting a compatibility test with a small amount of each product.
2. Observe all cautions and limitations on labels of all products used in combination.
3. Follow all tank mix directions and observe limitations listed in the combination product(s) label.

COMPATIBILITY TEST

A compatibility test should be performed before tank mixing this product with other product(s) or liquid fertilizer(s). Fill three separate 1 quart jars with 1 pint of water and fertilizer. To a first jar add this product and mix well. To a second jar, add the desired other tank mix product(s) and mix well. To a third jar, combine this product with the other tank mix product(s) and mix well. If more than one product is used, add them separately with dry formulations first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. For the appropriate amount of product for this test use the following:

- DRY PRODUCTS-For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
- LIQUID PRODUCTS-For each pint to be applied per acre, add 0.5 teaspoons of 2.5 ml to each jar.

Note any differences between the mixtures in the jars (compounds alone vs. mixtures) after 15 min. Look for evidence of physical incompatibility such as clumping, precipitation, oily residues on the sides of the glass or other signs of incompatibility. If either mixture separates, but can be readily re-mixed, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, do not use the mixture. For additional mixing information or assistance call Thermo Trilogy's Customer Service at (800) 250-5024.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not store above 100 degrees F or below -20 degrees F for extended periods of time. Keep containers tightly closed when not in use.

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: Do not reuse container. Triple rinse or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in an incinerator or landfill or by other procedures approved by State and local authorities.

WARRANTY

Thermo Trilogy Corp. warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the insect problem, condition of the crop, incompatibility with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage 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 Bulletin

GENERAL INFORMATION:

Apply this product only through drip (trickle); sprinkler (solid set, lateral move, end tow, side-roll, center pivot, or hand move); flood (basin); furrow; or border irrigation systems. 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, 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 systems 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.

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

Chemigation systems connected to public water systems must contain a

functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent 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.

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

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.

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.

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.

DRIP TRICKLE CHEMIGATION:

1. 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing 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-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.
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 (i.e., diaphragm pump) effectively designed and constructed of materials that are

compatible with pesticides and capable of being fitted with a system interlock.

7. 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 agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.

SPRINKLER CHEMIGATION:

1. 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.
2. The pesticide injection pipeline must also 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-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.
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 (i.e., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
 7. 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 agricultural chemicals. Agitation is necessary. Apply when soils are moderately moist. Use volumes that thoroughly wet the foliage and/or soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.
 8. Do not apply when wind speed favors drift beyond the area intended for treatment.
- contamination from the back flow if water flow stops.
2. Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - a. 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.
 - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
 - c. 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.
 - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
 - e. 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.
 - f. Systems must use a metering pump, such as a positive displacement injection pump (i.e., diaphragm pump) effectively designed and

FLOOD (BASIN), FURROW AND BORDER CHEMIGATION:

1. Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential of water source

constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

3. 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 agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.

**THERMO TRILOGY
CORPORATION
9145 GUILFORD ROAD
SUITE 175
COLUMBIA, MARYLAND 21046**