

66222-226

7/6/2012

1 of 18



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D C 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

7/6/2012

Kristen B Knox
Makhteshim Agan of North America Inc
3120 Highwoods Blvd Suite 100
Raleigh NC 27604

re ABBA Ultra Miticide/Insecticide EPA Reg # 66222-226
label amendment submitted 5/4/12 revised 5/15/12 6/7/12 (D# 464677)
accepted (6/7/12 version)

Dear Ms Knox

This label amendment updates certain text in the Precautionary Statements (groundwater advisory, oxidation potential, CA Prop 65)

The revised labeling reference above submitted in connection with the registration under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) as amended is acceptable provided that you submit two copies of the revised final printed label for the record before you release the product for shipment

If the above provision is not complied with the registration will be subject to cancellation in accordance with FIFRA Section 6(e) Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions

A copy of the label stamped "accepted" is enclosed for your records If you have any questions please contact me at (703) 308-9423 or harris.thomas@epa.gov

Sincerely yours

Thomas C Harris
Biologist
Insecticide Rodenticide Branch
Registration Division (7505C)

enclosure

RESTRICTED USE PESTICIDE
TOXIC TO FISH MAMMALS AND AQUATIC ORGANISMS
FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION

ABBA[®] ULTRA

MITICIDE/INSECTICIDE

ACTIVE INGREDIENT	% BY WT
Abamectin	3.74%
INERT INGREDIENTS	<u>96.26%</u>
TOTAL	100.00%

1 gallon contains 0.3 lb abamectin

KEEP OUT OF REACH OF CHILDREN WARNING / AVISO

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)

Manufactured for
Makhteshim Agan of North America Inc
3120 Highwoods Blvd Suite 100
Raleigh NC 27604

EPA Reg No 66222-226

EPA Est No [REDACTED]

NET CONTENTS ___ GAL(S)

FIRST AID	
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice • Do not give any liquid to the person • Do not induce vomiting unless told to do so by the poison control center or doctor • Do not give anything by mouth to an unconscious person
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 immediately for treatment advice
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing • Rinse skin immediately with plenty of soap and 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 mouth-to-mouth if possible • Call a poison control center or doctor for treatment advice

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact ProSAR at 1-877-250-9291 for emergency medical treatment information.

Note to physician Early signs of intoxication include mydriasis (dilated pupils) ataxia (unsteadiness) and muscle tremors. Toxicity follows accidental ingestion of the ABBA[®] Ultra and can be minimized by promptly administering activated charcoal. If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given along with other required supportive measures (such as maintenance of blood pressure levels and respiratory functionality) as indicated by clinical signs, symptoms, and measurements. In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA.

ACCEPTED
7/6/2012

ABBA Ultra EPA #66222 226
Fast Track Amendment Update Precautionary Statement and Add CA Prop 65
CLEAN Label June 7 2012
Page 1 of 17

Under the Federal Insecticide Fungicide and
Rodenticide Act As amended for the pesticide
registered under EPA Reg No 66222 226

activity (barbiturates benzodiazepines valproic acid) in patients with potentially toxic abamectin exposure

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

WARNING/AVISO May be fatal if swallowed Causes moderate eye irritation Harmful if inhaled or absorbed through skin Avoid contact with eyes skin or clothing

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant to this product are listed below For more options follow the instructions for Category B on an EPA chemical resistance category selection chart

Applicators and other handlers must wear

- Long sleeved shirt and long pants
- Socks and shoes
- Chemical-resistant gloves (such as barrier laminate or butyl rubber or other selection category B material)

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

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and wildlife Do not apply directly to water to areas where surface water is present or to intertidal areas below the mean high water mark Do not apply when weather conditions favor drift from target areas Do not contaminate water when disposing of equipment wash water or rinsate This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area

Use of this product may pose a risk to threatened and endangered species of fish amphibians crustaceans (including fresh water shrimp) and insects All use of this product in the state of California must comply with the directions of the California Endangered Species Project Before using this product in California consult with your county agriculture commissioner to determine use limitations that apply in your area

This product may impact surface water quality due to runoff of rain water This is especially true for poorly draining soils and soils with shallow ground water This product is classified as having a medium potential for reaching both surface water and aquatic sediment via runoff for several weeks to months after application A level well maintained vegetative buffer strip between areas to which this product is applied and surface water such as ponds streams and springs will reduce the potential loading of abamectin from runoff water and sediment Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame This product is reactive toward and should be stored away from strong oxidants

Attention This product contains a chemical known to the State of California to cause birth defects or other reproductive harm

**DIRECTIONS FOR USE
RESTRICTED USE PESTICIDE**

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 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.

Exception: For grape girdling, cane turning, and tying in grapes, do not enter or allow worker entry into treated areas during the **restricted-entry interval (REI) of 4 days**.

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 butyl rubber ≥ 14 mils
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical resistant headgear for overhead exposure

FAILURE TO STRICTLY FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL CAN RESULT IN INJURY TO CROPS, INEFFECTIVE PEST CONTROL, AND/OR ILLEGAL RESIDUES

When applied to crops in accordance with the **DIRECTIONS FOR USE**, ABBA® Ultra miticide/insecticide, a microemulsion, effectively controls mites and other insects specified on this label. Thorough coverage is essential for effective insect and mite control.

ABBA Ultra offers a wide margin of safety when applied to a variety of crops. ABBA Ultra is also compatible with other commonly used pesticides, nutritional sprays, and crop oils. Pretest use of this product for physical compatibility and lack of phytotoxic effect when using any proposed mixtures with ABBA Ultra.

When an adjuvant is to be used with this product, Makhteshim Agan of North America, Inc. suggests the use of a Chemical Producers and Distributors Association certified adjuvant.

CHEMIGATION STATEMENT

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

USE RESTRICTIONS

Do not apply ABBA Ultra by aerial application equipment in New York State.

SPRAY DRIFT

Responsibility: 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 is responsible for considering all of these factors when making application decisions.

NOTE: When states have more stringent regulations, they must be observed.

Spray Drift Precautions for Application with Aircraft or Ground Application Equipment

- Apply ABBA Ultra only when wind velocity favors on-target product deposition (approximately 3 to 10 mph).
- Do not apply with ground application equipment within 25 ft of or with aircraft within 150 ft of lakes, reservoirs, rivers, permanent streams, marshes, pot holes, natural ponds, estuaries, or commercial fish farm ponds.
- Do not cultivate within 25 ft of the aquatic area to allow growth of a vegetative filter strip.
- Do not allow this product to drift onto non-target areas. Drift may result in illegal residues or injury to nontarget species. Risk of exposure to sensitive areas can be reduced by applying this product when the wind direction is away from the sensitive area.
- Do not apply when the weather conditions may cause drift.
- Avoid application when the temperature is high and/or the humidity is low. These conditions increase the evaporation of spray droplets and the likelihood of drift to aquatic areas.

- Do not apply when wind speed or wind gusts are greater than 15 mph
- Do not apply when wind speed is below 2 mph because wind direction will vary and there is a high potential for inversion
- Observe the following precautions when using ground application to spray tree crops (almonds apples avocado citrus pears plums prunes and walnuts) or hops in the vicinity of aquatic areas such as lakes reservoirs permanent streams marshes potholes natural ponds estuaries or commercial fish ponds
 - Do not apply ABBA Ultra when weather conditions favor drift to aquatic areas
 - Do not apply within 110 ft upwind of aquatic areas or when wind speed is above 8 mph
 - Spray last 3 rows upwind of aquatic areas using nozzles on one side only with spray directed away from the aquatic areas
 - Avoid spray going over tops of trees by adjusting or turning off top nozzles Shut off nozzles on the side away from the grove/orchard when spraying the outside row Shut off nozzles when turning at ends of row and passing tree gaps in rows

Spray Drift Precautions for Aerial Application

Drift Management Requirements

The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops

Outermost Nozzle Distance

The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor

Nozzle Direction

Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees

Maximum Wind Speed

Do not apply when wind speed is greater than 15 mph

Droplet Size

The most effective way to reduce drift potential is to apply large droplets The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see **Wind, Temperature and Humidity** and **Temperature Inversions**)

Controlling Droplet Size

Volume

Use high flow rate nozzles to apply the highest practical spray volume Nozzles with higher rated flows produce larger droplets

Pressure

Do not exceed the nozzle manufacturer's recommended pressures For many nozzle types lower pressure produces larger droplets When higher flow rates are needed use higher flow rate nozzles instead of increasing pressure

Number of Nozzles

Use the minimum number of nozzles that provide uniform coverage

Nozzle Orientation

Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice Significant deflection from horizontal will reduce droplet size and increase drift potential

Nozzle Type

Use a nozzle type that is designed for the intended application With most nozzle types narrower spray angles produce larger droplets Consider using low-drift nozzles Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift

Boom Length

For some use patterns reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width

Application Height

Applications should not be made at a height greater than 10 ft above the top of the target plants unless a greater height is required for aircraft safety Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind

Swath Adjustment

When applications are made with a cross wind the swath will be displaced downwind. Therefore on the up and downwind edges of the field the applicator must compensate for this displacement by adjusting the path of the aircraft upwind.

Wind

Drift potential is lowest between wind speeds of 2 - 10 mph. However many factors including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential.

Note Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

To compensate for evaporation when applying ABBA Ultra in low relative humidity set up equipment to produce larger droplets. Evaporation of droplets is most severe when conditions are both hot and dry.

Temperature Inversions

ABBA Ultra must not be applied during a temperature inversion because the potential for drift is high. Temperature inversions restrict vertical air mixing and this causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds that are common during inversions. Temperature inversions are characterized by temperatures that increase with altitude and are common on nights with limited cloud cover and light to no wind. Inversions begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog however if fog is not present the movement of smoke from a ground source or an aircraft smoke generator can also identify inversions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

RESISTANCE MANAGEMENT

To minimize the potential development of pest resistance to abamectin use of resistance management strategies is imperative especially when applying ABBA Ultra to crops that are hosts of pests on this label that have multiple generations per crop or per year. Examples of resistance management may include but are not limited to the following: non-chemical alternatives (such as beneficial arthropods), rotating susceptible and non-susceptible plants, rotating uses of pesticides with different modes of action, avoiding use of the same product on successive generations of pests, use of various other cultural practices, and using labeled rates at specified spray intervals. Consult your State Cooperative Extension Service to obtain additional information regarding these or other resistance management strategies.

CROP USE INSTRUCTIONS

APPLES

For controlling tentiform leafminers, white apple leafhoppers, European red mites, McDaniel spider mites, and two-spotted spider mites (Ground application only)

Apply ABBA Ultra when pest thresholds are reached. If necessary make a second application after at least 21 days to attain adequate control.

White Apple Leafhopper (Do not use west of Rocky Mountains) Only apply ABBA Ultra to the first generation white apple leafhopper. Apply with a horticultural spray oil* soon after petal fall.

Spider Mites Apply ABBA Ultra before the population reaches 5 spider mites per leaf. Residual control is improved when spray deposits are on newer leaves (compared to older leaves). Limit applications to the period between petal fall through six weeks after petal fall.

Tentiform Leafminers Apply ABBA Ultra onto eggs to control new hatch and at early sap feeder stages of the first and second generations when leafminer populations reach locally established thresholds. Do not apply ABBA Ultra during bloom stage.

Use conventional dilute or concentrate ground sprayers with enough water to produce thorough coverage. Spray volume will vary with the size and number of trees per acre and foliage density. Assure thorough coverage to attain spider mite and insect control. Best results are attained when applied as directed in combination with Horticultural Spray Oil (not dormant oil) that has been approved for use on apples. If Horticultural Spray Oil is not used reduced efficacy and/or reduced residual control could result.

See **SPRAY DRIFT** section of this label for spray drift precautions.

ABBA Ultra can cause injury to fruit of some apple varieties when used with Horticultural Spray Oils or when other products are sequentially applied. For example, russetting can occur on Golden Delicious and other light-skinned varieties. Users must carefully follow the **DIRECTIONS FOR USE** and **PRECAUTIONS** on the labels of Horticultural Spray Oils or those in official spray guides when using ABBA Ultra in combination with Horticultural Spray Oils. For example, applications of ABBA Ultra with horticultural spray oil less than 14 days before or after a captan application can result in phytotoxicity.

Pests	Rate of ABBA Ultra & Horticultural Spray Oil*	
	Dilute Sprays ¹	Concentrate Sprays ²
Two-spotted spider mite McDaniel spider mite European red mite Tentiform leafminers White apple leafhopper	1.25 – 2.5 fl oz ABBA Ultra/100 gals water <i>plus</i> 1 qt Horticultural Spray Oil*/100 gals (i.e. 0.25% of finished spray)	5 – 10 fl oz ABBA Ultra/A <i>plus</i> at least 1 gal Horticultural Spray Oil*/A

* Not a dormant oil

¹ Rates per 100 gals dilute spray are based on a 400 gals/acre spray volume

² To determine the ABBA Ultra rate per acre for concentrate sprays, it is necessary to first determine the amount needed for a full cover dilute spray. Use the same amount of product per acre in concentrate sprays as required for dilute sprays to the same grove/orchard. The result could be less than 5 fl oz/acre when used on smaller trees.

Use Restrictions — Apples

- Do not apply aerially
- Do not apply ABBA Ultra during bloom stage
- Do not apply in less than 40 gallons of water per acre
- Do not retreat within 21 days of the first application
- Do not use more than 10 fl oz of ABBA Ultra per acre (0.023 lb ai/A) per application or 20 fl oz/A (0.046 lb ai/A) in a growing season
- Do not exceed 2 applications per growing season
- Do not apply within 28 days of harvest
- Do not graze treated orchards

See **SPRAY DRIFT** section of this label for spray drift precautions

AVOCADOS

For controlling avocado thrips

Apply ABBA Ultra using ground or aerial application equipment. Aerial application is permitted, however, aerial application is not the preferred method of application for the best control of thrips. Spray coverage and the resulting control of thrips when applied by air is less than with ground application. The user accepts all liability for the level and duration of control of thrips when ABBA Ultra is aerially applied. When applying by ground, use a minimum of 100 gallons of water per acre and when applying by air, use a minimum of 50 gallons of water per acre.

Spray volume will vary with the size and number of trees per acre and foliage density. Assure thorough coverage to attain spider mite and insect control.

Pests	Rate of ABBA Ultra fl oz/A	*Thrips Infestation level	Number of immature thrips per leaf/fruit
Avocado Thrips (<i>Scirtothrips perseae</i>)	5.0 – 10.0 ABBA Ultra/A <i>plus</i> a horticultural oil as specified below	Low	1 – 2
		Moderate	3 – 4
		Severe	More than 5

Avocado Thrips Apply when immature thrips are first observed but before numbers exceed 5 immature thrips per leaf/fruit. Use 5 – 7.5 fl oz of product/A for low* to moderate* infestations and 7.5 – 10 fl oz of product/A for severe* infestations. Add a 1.0% – 4.0% NR (narrow range) 415 oil approved for use on avocados. Make a second application if needed to maintain control, but wait at least 30 days after the first application to retreat (see **Use Restrictions**). For Ground Application: If spray volume is greater than 400 gals/A, apply ABBA Ultra at a rate of 1.25 fl oz per 100 gals of water plus 1.0%-4.0% of a narrow range 415 oil approved for use on avocados.

Observe all precautions and restrictions on the oil label to prevent crop injury. Treat a small test area before making a large scale application when using oil concentrations above 2.0%

Use Restrictions — Avocados

- Do not use less than 5 fl oz of ABBA Ultra/A (0.012 lb ai/A) per application nor more than 10 fl oz of ABBA Ultra/A (0.023 lb ai/A) per application
- Do not apply within 14 days of harvest
- Do not retreat within 30 days of the first application nor make more than 2 applications per season
- Do not apply more than 20 fl oz/A (0.046 lb ai/A) per season
- Do not allow livestock to graze in treated orchard

CELERIAC (*Apium graveolens*)

For controlling two-spotted spider mites

Apply ABBA Ultra when mites first appear and repeat as necessary to maintain control (see **Use Restrictions**)

Use conventional dilute or concentrate ground sprayers with enough water to provide thorough coverage of the foliage. Best results are obtained when ABBA Ultra is used in combination with a non-ionic surfactant

Pests	fl oz ABBA Ultra/A
Two spotted spider mites	8.0

Use Restrictions — Celery

- Do not apply in less than 20 gallons of water per acre
- Do not apply at intervals of less than 7 days
- Do not exceed 24 fl oz/A (0.056 lb ai/A) after transplanting
- Do not apply within 7 days of harvest
- For resistance management do not exceed 2 applications sequentially

CITRUS FRUIT CROP GROUP (CROP GROUP 10)

Calamondin Citrus citron Citrus hybrids (*Citrus* spp) (includes chironja tangelo tangor) Grapefruit Kumquat Lemon Lime Mandarin (tangerine) Sour orange Sweet orange Pummelo and Satsuma mandarin

Aerial Application – Citrus Leafminer only

- Aerial application is permitted **only** for control of citrus leafminer
- Do not apply with aircraft to citrus in California

Ground Application

- Apply ABBA Ultra using conventional dilute or concentrate ground sprayers with enough water to provide thorough coverage (or outside coverage to control Asian citrus psyllid citrus thrips and citrus leafminers)
- Spray volume varies with the number and size of trees per acre and also with foliage density. For good pest control ensure thorough coverage

For controlling citrus rust mites, broad mites, two-spotted spider mites, citrus bud mites, Asian citrus psyllid, citrus leafminers, and citrus thrips

Mites (other than citrus bud mites) Apply ABBA Ultra when mites initially appear in the spring summer and/or fall months

Citrus Bud Mites Best results can be attained when ABBA Ultra is applied at bud swell

Asian Citrus Psyllid Apply ABBA Ultra to protect new growth during the spring summer or fall months but will only control adult and nymphs present at the time of application

Citrus Leafminers Apply ABBA Ultra to protect new growth during the spring summer or fall months. Ground or aerial application is permitted in all citrus areas. NOTE: Aerial application is not approved in California. For aerial application use a minimum of 10 gallons of finished spray volume per acre. Under conditions such as high pest populations dense foliage adverse application conditions (i.e. high temperatures) use a greater volume of water to insure adequate coverage

Citrus Thrips Each application of ABBA Ultra only controls the current generation. Therefore applications must be timed when economic thresholds have been reached—after eggs have begun to hatch preferably at early to mid-hatch

Apply ABBA Ultra using conventional dilute or concentrate ground sprayers with enough water to provide thorough coverage (or outside coverage to control Asian citrus psyllid citrus thrips and citrus leafminers) Spray volume varies with the number and size of trees per acre and also with foliage density For good pest control ensure thorough coverage

See **SPRAY DRIFT** section of this label for spray drift precautions

Unless specified differently below apply ABBA Ultra with at least 1.6 pt Horticultural Spray Oil (not dormant oil)/100 gals finished spray (i.e. 0.2% of finished spray) for dilute sprays or at least 1.0 gallon of Horticultural Spray Oil per acre in concentrate sprays

Pests	Dilute Sprays ¹	Concentrate Sprays ²
	fl oz ABBA Ultra/100 gals	fl oz ABBA Ultra/A
Citrus rust mite	0.25 – 1.0	2.5 – 10 ³
Broad mite	0.5 – 1.0	5 – 10 ³
Two-spotted spider mite	0.5 – 1.0	5 – 10
Citrus bud mite	0.5 – 1.0	5 – 10 ⁴
Asian Citrus Psyllid	--	5 – 10 ³
Citrus leafminer	--	2.5 – 10 ³
Citrus thrips	--	5 – 10 ⁵
	<i>Plus at least 1.6 pt Horticultural Spray Oil**/100 gals (i.e. 0.2% of finished spray)</i>	<i>Plus at least 1 gal Horticultural Spray Oil**/A</i>

** Not a dormant oil

¹ The rate of ABBA Ultra per 100 gals is based on a volume of 1,000 gals/A dilute spray

² For concentrate sprays the dosage must be adjusted to apply an amount of product per acre equal to the amount required for full cover dilute sprays

³ For ground application use 150 – 300 gals/A of spray mix with a minimum of 3 gals /A of horticultural oil (not a dormant oil) and apply at a ground speed of 1 to 1.5 MPH

⁴ Use at least 500 gals of spray mix per acre with at least 0.5% Horticultural Spray Oil**

⁵ Use 100-250 gals of spray mix/A applied to achieve outside coverage

Use Restrictions — Citrus Fruit Crop Group

- Aerial application is permitted only for control of citrus leafminer
- All other pests Ground application only Do not apply by air
- Aerial application to citrus is not approved in California
- Always apply ABBA Ultra with Horticultural Spray Oil (not a dormant oil) as directed
- Do not apply ABBA Ultra or any other abamectin-containing product within 30 days of the last treatment
- Do not apply more than 20 fl oz per acre (0.046 lb ai/A) of ABBA Ultra or any other abamectin-containing product in any growing season Do not make more than 3 applications of ABBA Ultra or any other abamectin-containing product in any growing season
- Do not allow livestock to graze in treated orchards
- Do not apply within 7 days of harvest
- For resistance management do not apply ABBA Ultra in citrus nurseries

COTTON

For control of two-spotted spider mites, carmine spider mites, Pacific spider mites, and strawberry spider mites

Apply when mites first appear Aerial or ground applications are permitted Thorough coverage of the crop is essential for best coverage and control apply ABBA Ultra with ground application equipment Mix with sufficient volume of water to ensure thorough coverage but do not apply in less than 5 gallons of water per acre The use rate depends on the size of the plant and the density of the foliage Repeat applications as necessary (see **Use Restrictions**)

See **SPRAY DRIFT** section of this label for spray drift precautions

ABBA Ultra can be used without a wetting agent Improved mite control can be achieved by the addition of a spreading or penetrating surfactant A nonionic surfactant is suggested to improve the wetting of foliage Do not use binder or sticker-type surfactants

For early-season applications apply 2 – 3 fl oz of ABBA Ultra per acre when cotton is no more than 10 inches high Do not use less than 2 fl oz of ABBA Ultra per acre **West of the Rockies** the lower use rates can only be used on cotton that is no more than 10 inches high and on applications that are made with ground equipment only

Apply 4 – 8 fl oz of ABBA Ultra per acre when mites are first observed and repeat applications as necessary (see **Use Restrictions**) Use rates depend on the size of the plant and the density of the foliage

Use Restrictions — Cotton

- Do not apply more than 2 times per season or more than 16 fl oz of product per acre (0.038 lb ai/A) per growing season
- Do not apply at intervals of less than 21 days
- Do not apply within 20 days of harvest
- Do not feed or allow livestock to graze treated cotton

CUCURBIT VEGETABLES CROP GROUP (CROP GROUP 9)

Chayote (fruit) Chinese waxgourd Citron Melon Cucumber Gherkin Edible Gourds (Lagenaria spp including hyotan cucuzza Luffa acutangula L. cylindrica spp including hechima Chinese okra) *Momordica* spp (includes balsam apple balsam pear bittermelon Chinese cucumber) Muskmelon (hybrids and cultivars of Cucumis melo includes true cantaloupe cantaloupe casaba Crenshaw melon golden pershaw melon honeydew melon honey balls mango melon Persian melon pineapple melon Santa Claus melon and snake melon) Pumpkin Summer Squash (includes crookneck squash scallop squash straightneck squash vegetable marrow zucchini) Winter Squash (includes butternut squash calabaza hubbard squash acorn squash spaghetti squash) and Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)

For controlling leafminers and spider mites

Apply ABBA Ultra when adult leafminer flies or spider mites are initially seen Repeat applications when needed to maintain control (see **Use Restrictions**) When low to moderate infestations are present use 4 fl oz per acre for severe infestations use 8 fl oz per acre

Apply as a foliar spray in at least 20 gallons of water per acre by ground or in at least 5 gallons per acre by air Under conditions such as high pest populations dense or rank foliage high temperatures or other such adverse application situations use a greater water volume to ensure adequate coverage For best results ensure that good upper and lower leaf coverage is attained Do not apply ABBA Ultra by aerial application equipment in New York State

Pests	fl oz ABBA Ultra/A
Spider mites Leafminers	4.0 – 8.0

Use Restrictions — Cucurbit Vegetables Crop Group

- Do not apply in less than 20 gallons of water per acre by ground or in less than 5 gallons per acre by aircraft
- Do not apply at intervals of less than 7 days
- Do not use more than 24 fl oz per acre (0.056 lb ai/A) in any growing season
- Do not apply within 7 days of harvest
- For resistance management do not exceed 2 sequential applications

FRUITING VEGETABLES CROP GROUP (EXCEPT CUCURBITS) (CROP GROUP 8)

Eggplant Groundcherry Pepino Pepper (includes bell pepper chili pepper cooking pepper pimento sweet pepper) Tomatillo and Tomato

For controlling Tomato pinworm, Broad mite, *Liriomyza* leafminers, Colorado potato beetle, Spider mites, Thrips palmi, Tomato russet mite, and Tomato psyllid

Broad, russet, and spider mites Apply when mites first appear
Thrips palmi Apply when thrips are first observed

Tomato pinworm Application can be made from the time moth activity is detected up to but no later than the time when newly emerged larvae are present

Mites, leafminers, Thrips palmi, and Colorado potato beetle Use 4 fl oz/A for low to moderate infestations and 8 fl oz/A for severe infestations

Apply as a foliar spray in at least 20 gallons of water per acre by ground or in at least 5 gallons per acre by air Under conditions such as high pest populations dense or rank foliage high temperatures or other such adverse application situations use a greater water volume to ensure adequate coverage For best results ensure thorough coverage of the crop canopy With aerial application spray coverage and the resulting control of mites is less than when using ground application equipment For this reason the user accepts all liability for the level and duration of control of mites when ABBA Ultra is aerially applied Do not apply ABBA Ultra by aerial application equipment in New York State

Repeat application as necessary to maintain control (see **Use Restrictions**)

ABBA Ultra can be used without a wetting agent Spreading and penetrating surfactants can improve insect control when necessary to improve the wetting of foliage and to smooth out spray deposits use a nonionic surfactant Do not use binder or sticker-type surfactants

Pests	fl oz ABBA Ultra/A
Broad mite Colorado potato beetle <i>Liriomyza</i> leafminers Spider mites Thrips palmi Tomato psyllid Tomato Russet mite	4.0 – 8.0
Tomato pinworm	8.0

Use Restrictions — Fruiting Vegetables Crop Group (Except Cucurbits)

- Do not apply within 7 days of harvest
- For resistance management do not use on fruiting vegetables grown for transplanting
- Wait at least 7 days before repeating application but do not make more than 2 sequential applications nor exceed 24 fl oz/A (0.056 lb ai/A) in a growing season

GRAPES

For controlling two spotted spider mites, Pacific spider mites, Willamette spider mites, Western grapeleaf skeletonizers, and for contact knock-down of Variegated leafhopper and Western grape leafhoppers

Spider mites Apply with a non-ionic surfactant when mites initially appear but before the number of motiles exceeds 5 per leaf When low to moderate infestations are present use 4 fl oz/acre for severe infestations use 8 fl oz/acre

Western grapeleaf skeletonizer Apply ABBA Ultra with a non-ionic surfactant when the larvae are initially seen For best results apply ABBA Ultra shortly after eggs hatch When low to moderate infestations are present use 4 fl oz/acre for severe infestations use 8 fl oz/acre

Western grape leafhoppers and variegated leafhoppers For contact knock-down control of these pests apply ABBA Ultra with a non-ionic surfactant when pest first appears When low to moderate infestations are present use 4 fl oz/acre for severe infestations use 8 fl oz/acre

Use conventional ground sprayers only with enough water to provide thorough coverage For good pest control thorough coverage is essential To improve the wetting of foliage and to spread out spray deposits always use ABBA Ultra in combination with a non-ionic surfactant To maximize coverage ABBA Ultra must be applied to both sides of each row (i.e. do not use alternate row treatments)

It is not possible to test all grape varieties under the multitude of biotic and abiotic conditions that can cause phytotoxicity Therefore carefully follow the Directions for Use and Precautions sections of non-ionic surfactant labels and/or official spray guides when using ABBA Ultra with a non-ionic surfactant

Pests	fl oz ABBA Ultra/A
Two spotted spider mite	

Pacific spider mite Willamette spider mite Western grapeleaf skeletonizer Western grape leafhopper* Variegated leafhopper*	4 0 – 8 0 Plus a nonionic surfactant**
--	---

* Note ABBA Ultra only provides contact knock-down control of this pest

**Note ABBA Ultra must be applied with a non-ionic surfactant to spread out spray deposits and improve wetting of foliage

Use Restrictions — Grapes

- Do not apply in less than 50 gallons of water per acre except when using an electrostatic sprayer do not use less than 5 gallons of water per acre with this type of spray equipment
- Do not reapply within 21 days of first application
- Do not use more than 8 fl oz of ABBA Ultra per acre (0 019 lb ai/A) per application or 16 fl oz per acre (0 038 lb ai/A) in a growing season
- Do not exceed two applications per growing season nor apply within 28 days of harvest
- Do not allow livestock to graze in treated vineyards
- Do not apply aerially

HERB CROP SUBGROUP (EXCEPT CHIVES) (CROP SUBGROUP 19A)

Some of the crops in this group are Angelica Balm Basil Borage Burnet Chamomile Catnip Chervil (dried) Clary Coriander (leaf) Cilantro (leaf) Costmary Culantro (leaf) Curry (leaf) Dill weed Horehound Hyssop Lavender Lemongrass Lovage (leaf) Marigold Marjoram (*Organum* spp) Nasturtium Parsley (dried) Pennyroyal Rosemary Rue Sage Savory (summer and winter) Sweet bay Tansy Tarragon Thyme Wintergreen Woodruff and Wormwood

For controlling *Liriomyza* leafminers

Apply using conventional ground sprayers only in a minimum of 30 gallons of water per acre Apply as a foliar spray providing thorough coverage of the upper and lower leaf surfaces ABBA Ultra can be used without a wetting agent When it is necessary to smooth out spray deposits or improve the wetting of foliage a nonionic surfactant can be used To avoid crop injury carefully follow the **DIRECTIONS FOR USE** and **PRECAUTIONS** sections of non-ionic surfactant labels and/or official spray guides when using ABBA Ultra with a non-ionic surfactant

Use the lower rate for low to moderate infestations and the higher rate for severe infestations Apply when adult flies are first observed and repeat application as necessary to maintain control (see **User Restrictions**)

Pest	fl oz ABBA Ultra/A
<i>Liriomyza</i> leafminers	4 0 – 8 0

Use Restrictions — Herb Crop Subgroup (Except Chives)

- Do not apply within 14 days of harvest
- Do not reapply within 7 days of first application
- Do not make more than 2 applications per single cutting (harvest) nor make more than 24 fl oz/A (0 056 lb ai/A) per cropping season (6 applications at 4 fl oz/A or 3 applications at 8 fl oz/A)
- Do not apply aerially

HOPS (Not registered for use in California)

For controlling two-spotted spider mites

Apply ABBA Ultra when populations of two spotted spider mites reach treatment thresholds When hop vines are 6 - 8 feet tall use 4 – 8 fl oz ABBA Ultra in at least 40 gallons of water using conventional ground equipment only When hop vines exceed 8 feet in height use 8 fl oz ABBA Ultra in at least 100 gallons of water Do not retreat with an abamectin product within 21 days of the initial application and then only after treatment with an alternative miticide with a different mode of action

Mix with water as specified then apply with ground equipment as a foliar spray to obtain good upper and lower leaf coverage Spray volume can vary with plant size and density of foliage To control two-spotted mites thorough coverage of foliage is essential When using concentrate sprays the volume of water is reduced but

the amount per acre of ABBA Ultra remains the same as that of dilute sprays ABBA Ultra can be used without a wetting agent however use a nonionic surfactant to improve wetting of foliage and to spread out spray deposits

See **SPRAY DRIFT** section of this label for spray drift precautions

Pests	fl oz ABBA Ultra/A
Two-spotted spider mites	4.0 – 8.0

Use Restrictions — Hops

- Do not exceed 2 applications or 16 fl oz/acre (0.038 lb ai/A) per growing season nor apply within 28 days of harvest
- Do not allow livestock to graze in treated hop yards
- Do not apply aerially

LEAFY VEGETABLE CROP GROUP (EXCEPT BRASSICA VEGETABLES) (CROP GROUP 4)

Some of the crops in this group are Amaranth (leafy Amaranth Chinese spinach tampala) (*Amaranthus* spp) Arugula (Roquette) (*Eruca sativa*) Cardoon (*Cynara cardunculus*) Celery (*Apium graveolens* var *dulce*) Celery Chinese (*Apium graveolens* var *secalinum*) Celtnce (*Lactuca sativa* var *angustana*) Chervil (*Anthriscus cerefolium*) Chrysanthemum edible-leaved (*Chrysanthemum coronarium* var *coronarium*) Chrysanthemum garland (*Chrysanthemum coronarium* var *spatosum*) Corn salad (*Valerianella locusta*) Cress garden (*Lepidium sativum*) Cress upland (yellow rocket winter cress) (*Barbarea vulgaris*) Dandelion (*Taraxacum officinale*) Dock (sorrel) (*Rumex* spp) Endive (escarole) (*Cichorium endivia*) Fennel Florence (finocchio) (*Foeniculum vulgare*) Azoricum Group) Lettuce head and leaf (*Lactuca sativa*) Orach (*Atriplex hortensis*) Parsley (*Petroselinum crispum*) Purslane garden (*Portulaca oleracea*) Purslane winter (*Montia perfoliata*) Radicchio (red chicory) (*Cichorium intybus*) Rhubarb (*Rheum rhabarbarum*) Spinach (*Spinacia oleracea*) Spinach New Zealand (*Tetragonia tetragonioides* T *expansa*) Spinach vine (Malabar spinach Indian spinach) (*Basella alba*) and Swiss chard (*Beta vulgaris* var *cicla*)

For controlling carmine spider mite, *Liriomyza* leafminers, and two-spotted spider mite

Leafminers Apply when adult flies are first observed and repeat applications as needed to maintain control (see **Use Restrictions**)

Spider mites Apply when mites first appear and repeat as needed to maintain control (see **Use Restrictions**)

Apply as a foliar spray in at least 20 gallons of water per acre by ground or in at least 5 gallons per acre by air Under conditions such as high pest populations dense foliage high temperatures or other such adverse application situations use a greater water volume to ensure adequate coverage Thorough coverage of the crop canopy is essential With aerial application spray coverage and the resulting control of mites is less than when using ground application equipment For this reason the user accepts all liability for the level and duration of control of mites when ABBA Ultra is aerially applied Use the lower rates for low to moderate infestations and the higher rate for severe infestations Do not apply ABBA Ultra by aerial application equipment in New York State

ABBA Ultra can be used without a wetting agent Spreading and penetrating surfactants can improve insect control when necessary to improve the wetting of foliage and to smooth out spray deposits use a nonionic surfactant Do not use binder or sticker-type surfactants

Pests	fl oz ABBA Ultra/A
Carmine spider mite <i>Liriomyza</i> leafminers Twospotted spider mite	4.0 – 8.0 plus a nonionic surfactant

Use Restrictions — Leafy Vegetable Crop Group (Except Brassica Vegetables)

- Do not apply within 7 days of harvest
- For resistance management do not use on leafy vegetables grown for transplanting nor make more than 2 sequential applications
- Do not reapply within 7 days of first application
- Do not apply more than 24 fl oz/A (0.056 lb ai/A) per growing season

MINT (PEPPERMINT AND SPEARMINT)

For controlling two-spotted spider mite

Apply as a foliar spray in at least 20 gallons of water per acre by ground or in at least 5 gallons per acre by air Under conditions such as high pest populations dense foliage high temperatures or other such adverse application situations use a greater water volume to ensure adequate coverage Thorough coverage of the crop canopy is essential With aerial application spray coverage and the resulting control of mites is less than when using ground application equipment For this reason the user accepts all liability for the level and duration of control of mites when ABBA Ultra is aerially applied Do not apply ABBA Ultra by aerial application equipment in New York State

Use the lower rates for low to moderate infestations and the higher rate for severe infestations For optimum control a nonionic or organosilicone-based surfactant can be used at rates specified on the surfactant label To avoid crop injury carefully follow the Directions for Use and Precautions sections of the surfactant labels and/or official spray guides when using in the spray mixture

Pest	fl oz ABBA Ultra/A
Twospotted spider mite	4.0 – 6.0

Use Restrictions — Mint (Peppermint and Spearmint)

- Do not apply within 28 days of harvest
- Do not apply more than 6 fl oz/A (0.014 lb ai/A) per application nor more than 18 fl oz/A (0.042 lb ai/A) per crop season
- Do not reapply within 7 days of first application
- Do not make more than 2 sequential applications and do not apply more than 3 applications per season
- Do not allow livestock to graze or feed treated foliage to livestock

PEARS (including oriental pear trees)

For controlling European red mite, pear rust mite, yellow mite, two-spotted spider mite, McDaniel spider mite, and pear psyllid

Apply ABBA Ultra using conventional dilute or concentrate ground sprayers only calibrated to deliver enough water for thorough coverage but not less than 40 gallons of water per acre Spray volume will vary with the size and number of trees per acre and foliage density Assure thorough coverage to attain effective spider mite and insect control Always apply ABBA Ultra combined with a Horticultural Spray Oil (not dormant oil) as directed

See **SPRAY DRIFT** section of this label for spray drift precautions

Apply ABBA Ultra using at least 1 qt Horticultural Spray Oil*/100 gals (i.e. 0.25% of finished spray) in dilute sprays or with at least 1.0 gal of Horticultural Spray Oil* per acre in concentrate sprays

Applying ABBA Ultra plus horticultural spray oil less than 14 days before or after applying Captan can result in phytotoxicity and crop loss

Pests	Rate of ABBA Ultra & Horticultural Spray Oil *	
	Dilute Sprays ¹	Concentrate Sprays ²
Two-spotted spider mite McDaniel spider mite European red mite Pear rust mite Yellow mite Pear psylla	1.25 – 2.5 fl oz ABBA Ultra/100 gals water <i>plus</i> 1 qt Horticultural Spray Oil*/100 gals (i.e. 0.25% of finished spray)	5 – 10 fl oz ABBA Ultra/A <i>plus</i> at least 1.0 gal Horticultural Spray Oil*/A

* Not a dormant oil

¹ Rates per 100 gals are based on a volume of 400 gals/acre dilute spray

² To determine the ABBA Ultra rate per acre for concentrate sprays it is necessary to first determine the amount needed for a full cover dilute spray Use the same amount of product per acre in concentrate sprays as required for dilute sprays to the same grove/orchard The result can be less than 5 fl oz/acre when used on smaller trees

Use Restrictions — Pears (including oriental pear trees)

- Do not reapply within 21 days of first application nor apply within 28 days of harvest
- Do not use more than 10 fl oz of ABBA Ultra per acre (0.023 lb ai/A) per application Do not exceed 20 fl oz/acre (0.046 lb ai/A) in a single growing season

- Do not exceed 2 applications per growing season
- Do not allow livestock to graze in treated orchards
- Do not apply aerially

STONE FRUIT CROP GROUP (CROP GROUP 12)

Crops in this group are apricot cherry (sweet and tart) nectarine peach plum plum (chicasaw damson and Japanese) plumcot and prune (fresh)

For controlling European spider mite, Pacific spider mite, and two-spotted spider mite

Use conventional dilute or concentrate ground sprayers only with enough water to produce thorough coverage but do not use less than 40 gallons of water per acre Spray volume will vary with the size and number of trees per acre and foliage density Assure thorough coverage to attain spider mite control

See **SPRAY DRIFT** section of this label for spray drift precautions

Apply when mites first appear A second application can be made if needed to maintain control (see **Use Restrictions**)

Apply ABBA Ultra in combination with a nonionic surfactant that spreads on and/or penetrates the leaf cuticle or apply with horticultural spray oil (not a dormant oil) To avoid crop injury carefully follow the **DIRECTIONS FOR USE** and **PRECAUTIONS** sections of the surfactant or oil label(s) and/or official spray guides when using in the spray mixture

Pest	For dilute sprays¹ fl oz/100 gals	For Concentrate sprays² fl/oz/A
European red mite	1.25 – 2.5	5 – 10
Pacific spider mite	<i>plus</i>	<i>plus</i>
Twospotted spider mite	0.25% or 1 gal/A horticultural spray oil (not a dormant oil) or nonionic surfactant at the labeled rate	horticultural spray oil (not a dormant oil) at a minimum of 1 gal/A

¹ The rate of ABBA Ultra per 100 gals is based on volume of 400 gals/A dilute spray

² To determine the amount of product per acre for concentrate sprays first determine the amount that would be required in a full cover dilute spray Use the same amount of product per acre in concentrate sprays as would be required for the dilute sprays to the same orchard/grove This can result in use of less than 5 fl oz/A on small trees

Use Restrictions — Stone Fruit Crop Group

- Do not reapply within 21 days of first application nor within 21 days of harvest
- Do not apply more than 10 fl oz/A (0.023 lb ai/A) per application nor more than 20 fl oz/A (0.046 lb ai/A) in a growing season
- Do not make more than 2 applications per growing season
- Do not allow livestock to graze in treated orchards
- Do not apply aerially

STRAWBERRIES

For controlling two-spotted spider mites and strawberry spider mite

Apply 8 fl oz per acre of ABBA Ultra when mites are initially seen Make 2 applications at intervals of 7 - 10 days and repeat this sequence as needed to maintain control (see **Use Restrictions**) Wait at least 21 days after the second application before repeating application To ensure maximum coverage of tops and undersides of foliage adjust nozzle placement and spray volume ABBA Ultra can be used without a wetting agent however use a nonionic surfactant to improve wetting of foliage and to spread out spray deposits

Pests	Fl Oz ABBA Ultra/A
Two-spotted spider mite	8.0
Strawberry spider mite	

Use Restrictions — Strawberries

- Do not apply in less than 50 gallons of water per acre with conventional ground application equipment only except when using an electrostatic sprayer do not use less than 10 gallons of water per acre with this type of spray equipment
- Do not use more than 8 fl oz of ABBA Ultra per acre (0.019 lb ai/A) per application Do not exceed 32 fl oz/acre (0.075 lb ai/A) in a single growing season
- Do not apply within 3 days of harvest
- For resistance management ABBA Ultra must not be used in strawberry nurseries
- Do not apply aerially

TREE NUTS CROP GROUP (CROP GROUP 14) AND PISTACHIO

Crops in this group are almond beech nut Brazil nut butternut cashew chestnut chinquapin filbert (hazelnut) hickory nut macadamia nut pecan and walnuts (black and English)

For controlling strawberry spider mites, Pacific spider mites, two-spotted spider mites, and European red mites (Ground application only)

Apply ABBA Ultra when mites initially appear To maintain control make a second application of ABBA Ultra after at least 21 days if needed Spray deposits on newer leaves (compared to older leaves) provide greater residual spider mite control

Use conventional dilute or concentrate ground sprayers with enough water to provide thorough coverage Volume of spray will vary with the size and number of trees per acre and foliage density Assure thorough coverage to attain spider mite control Use ABBA Ultra with a Horticultural Spray Oil (not a dormant oil) that is approved for use on Tree Nuts Crop Group and Pistachio If applications are made without Horticultural Spray Oil reduced efficacy and/or reduced residual control could result

See **SPRAY DRIFT** section of this label for spray drift precautions

Pests	Rate of ABBA Ultra & Horticultural Spray Oil*	
	Dilute Sprays ¹	Concentrate Sprays ²
Two-spotted spider mite	1.25 – 2.5 fl oz	5 – 10 fl oz
Pacific spider mite	ABBA Ultra/100 gals water	ABBA Ultra/A
Strawberry spider mite	plus 1 qt Horticultural Spray Oil*/100	plus at least 1 gal Horticultural Spray Oil*/A
European red mite	gals (i.e. 0.25% of finished spray)	

* Not a dormant oil

¹ Rates per 100 gals dilute spray are based on a 400 gal/acre spray volume

² To determine the ABBA Ultra rate per acre for concentrate sprays it is necessary to first determine the amount needed for a full cover dilute spray Use the same amount of product per acre in concentrate sprays as required for dilute sprays to the same grove/orchard The result can be less than 5 fl oz/acre when used on smaller trees

Use Restrictions — Tree Nuts Crop Group and Pistachio

- Do not apply aerially
- Do not apply in less than 40 gallons of water per acre
- Do not retreat within 21 days of the first application
- Do not use more than 10 fl oz of ABBA Ultra per acre (0.023 lb ai/A) per application or 20 fl oz/A (0.046 lb ai/A) in a growing season
- Do not exceed 2 applications per growing season
- Do not apply within 21 days of harvest
- Do not allow livestock to graze treated groves or orchards

TUBEROUS AND CORM VEGETABLES CROP SUBGROUP (CROP SUBGROUP 1C)

Crops in this subgroup are arracha arrowroot artichoke Chinese artichoke Jerusalem canna edible cassava (bitter and sweet) chayote (root) chufa dasheen ginger leren potato sweet potato tanier turmeric yam bean and yam true

For controlling Colorado potato beetles, Liriomyza leafminers, Potato psyllid and Spider mites

Colorado potato beetles Apply ABBA Ultra when 50% of egg masses have hatched and larvae are observed If two applications are planned they must be restricted to a single Colorado potato beetle generation per season

and intervals of at least 7 days must be observed For low to moderate infestations use 4 fl oz per acre for severe infestations use 8 fl oz per acre Do not exceed 2 applications per season

Liriomyza leafminers Make initial application when adult flies are first seen Repeat applications as necessary to maintain control (see **Use Restrictions**) as long as there is a minimum of 7-day intervals between applications For low to moderate infestations use 4 fl oz per acre for severe infestations use 8 fl oz per acre

Spider mites Apply the first application when mites first appear Repeat applications as necessary to maintain control (see **Use Restrictions**) as long as there is a minimum of 7-day intervals between applications For low to moderate infestations use 4 fl oz per acre for severe infestations use 8 fl oz per acre

Apply as a foliar spray in at least 20 gallons of water per acre by ground or in at least 5 gallons per acre by air Under conditions such as high pest populations dense or rank foliage high temperatures or other such adverse application situations use a greater water volume to ensure adequate coverage For best results ensure that good upper and lower leaf coverage is attained To optimize pest control add an organosilicone-based surfactant or non-ionic surfactant at the manufacturer s specified rate Effectiveness can be reduced if ABBA Ultra is used with a binder or sticker type product (such as Bravo Weather Stik®) Do not apply ABBA Ultra by aerial application equipment in New York State

Pests	fl oz ABBA Ultra/A
Colorado potato beetles Spider mites Liriomyza leafminers Potato psyllid	4 – 8

Use Restrictions — Tuberos and Corm Vegetables Crop Subgroup

- Do not use more than 16 fl oz/acre (0.038 lb ai/A) per season to control spider mites or Colorado potato beetles or more than 24 fl oz/acre (0.056 lb ai/A) per season to control leafminers
- Do not exceed 2 sequential applications and wait at least 7 days between applications
- Do not apply within 14 days of harvest
- Do not allow livestock to graze or feed treated foliage

STORAGE AND DISPOSAL

Do not contaminate water food or feed by storage or disposal Open dumping is prohibited Do not reuse empty container

PESTICIDE STORAGE Store in a tightly closed container in a cool dry place

PESTICIDE DISPOSAL Pesticide spray mixture or rinsate that cannot be used must be disposed of in a landfill approved for pesticides Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law If these wastes cannot be disposed of by the use according to label instructions contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance

CONTAINER HANDLING

Nonrefillable Container (five gallons or less) Nonrefillable container Do not reuse or refill this container Offer for recycling if available Clean container 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

Nonrefillable Container (greater than five gallons) Nonrefillable container Do not reuse or refill this container Offer for recycling if available Clean container promptly after emptying Triple rinse as follows Empty the remaining contents into application equipment or a mix tank Fill the container 1/4 full with water Replace and tighten closures Tip container on its side and roll it back and forth ensuring at least one complete revolution for 30 seconds Stand the container on its end and tip it back and forth several times Turn the container over onto its other end and tip it back and forth several times Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal Repeat this procedure two more times

Refillable Container (greater than 55 gallons) Refillable container Refill this container with abamectin only Do not reuse this container for any other purpose Cleaning the container before final disposal is the responsibility of the person disposing of the container Cleaning before refilling is the responsibility of the refiller To clean the container before final disposal empty the remaining contents from this container into application equipment or mix

tank Fill the container about 10 percent full with water Agitate vigorously or recirculate water with the pump for 2 minutes Pour or pump rinsate into application equipment or rinsate collection system Repeat this rinsing procedure two more times For final disposal offer for recycling or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities For minor spills leaks etc follow all precautions indicated on this label and clean up immediately Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use conditions of warranties and limitations of liability before using this product If terms are not acceptable return the unopened product container at once

By using this product user or buyer accepts the following **CONDITIONS DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY**

CONDITIONS The directions for use of this product are believed to be adequate and must be followed carefully However it is impossible to eliminate all risks associated with the use of this product Crop injury ineffectiveness or other unintended consequences may result because of such factors as weather conditions presence of other materials or the manner of use or application all of which are beyond the control of Makhteshim Agan of North America Inc All such risks shall be assumed by the user or buyer

DISCLAIMER OF WARRANTIES To the extent consistent with applicable law Makhteshim Agan of North America Inc makes no other warranties express or implied of merchantability or of fitness for a particular purpose or otherwise that extend beyond the statements made on this label No agent of Makhteshim Agan of North America Inc is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein To the extent consistent with applicable law Makhteshim Agan of North America Inc disclaims any liability whatsoever for special incidental or consequential damages resulting from the use or handling of this product

LIMITATIONS OF LIABILITY To the extent consistent with applicable law the exclusive remedy of the user or buyer for any and all losses injuries or damages resulting from the use or handling of this product whether in contract warranty tort negligence strict liability or otherwise shall not exceed the purchase price paid or at Makhteshim Agan of North America Inc s election the replacement of product

ABBA is a trademark of Makhteshim Agan of North America Inc Avri-Mek Bravo and Weather Stik are trademarks of Syngenta Group Company

ABBA Ultra (66222-226) (EPA App 12-27-11) (Amendment to EPA 05-04 12)