

66222-156

07/23/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D C 20460



OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

July 23, 2012

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

Dear Ms Knox

Subject Amended label to correct application rates and row spacing chart  
Product Name Mana Alias 4F  
EPA Registration No 66222 156  
EPA Decision No 464903

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, is acceptable with the following comments

- On page 3, increase the font size of the "Directions for Use" heading to make it more prominent The heading must be larger than the "Field Crops" heading, as Field Crops fall under the Directions for Use
- Throughout the label, delete the phrase "Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website (www.epa.gov) for latest crop groups" The product may only be applied to the specific crops explicitly stated on the label Should a crop group change it would be necessary to submit a label amendment to add the additional crops In some cases, it may also be necessary to submit a tolerance petition to support the addition of crops in a revised crop group

A stamped copy of the label is enclosed for your records Please submit two copies of your final printed labeling before you release the product for shipment Your release for shipment of the product constitutes acceptance of these conditions If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e) If you have any questions, please contact Julie Chao at (703) 308-8735 or [chao.julie@epa.gov](mailto:chao.julie@epa.gov)

Regards,

A handwritten signature in black ink that reads "Venus Eagle". The signature is written in a cursive style and is followed by a long horizontal line.

Venus Eagle, Product Manager (01)  
Insecticide-Rodenticide Branch  
Registration Division (7505P)

Enclosure

# MANA ALIAS<sup>®</sup> 4F

Flowable Insecticide

**ACTIVE INGREDIENT**

Imidacloprid 1 [(6 Chloro 3-pyridinyl)methyl] N-nitro 2 imidazolidinimine

**OTHER INGREDIENTS**

**% BY WT**

40.6%

59.4%

**TOTAL** 100.0%

Contains 4 lbs of active ingredient per gallon

**ACCEPTED**

JUL 23 2012

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under

Manufactured for  
Makhteshim Agan of North America Inc  
4515 Falls of Neuse Rd Suite 300  
Raleigh NC 27609

EPA Reg No 66222-156

EPA Reg No 66222-156

EPA Est No XXXXXXXXXX

**NET CONTENTS** \_\_\_\_\_ **GALLON**

FIRST AID	
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice</li> <li>Have person sip a glass of water if able to swallow</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor</li> <li>Do not give anything by mouth to an unconscious person</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing</li> <li>Rinse skin immediately with plenty of water for 15 20 minutes</li> <li>Call a poison control center or doctor for treatment advice</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15 20 minutes</li> <li>Remove contact lenses if present after the first 5 minutes then continue rinsing eye</li> <li>Call a poison control center or doctor for treatment advice</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>Move person to fresh air</li> <li>If person is not breathing call 911 or an ambulance then give artificial respiration preferably mouth to mouth if possible</li> <li>Call a poison control center or doctor for further treatment advice</li> </ul>
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	
<b>NOTE TO PHYSICIAN</b> No specific antidote is available. Treat the patient symptomatically.	

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

Harmful if swallowed absorbed through skin or inhaled. Avoid contact with skin eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear**

- Long sleeved shirt and long pants
- Chemical resistant gloves made of any waterproof material such as barrier laminate butyl rubber nitrile rubber neoprene rubber natural rubber polyethylene polyvinylchloride (PVC) or Viton
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining personal protective equipment PPE. If no such instructions for washables use detergent and hot water. Keep and wash PPE separately from other laundry.

### ENGINEERING CONTROLS STATEMENT

When handlers use closed systems enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)] the handler PPE requirements may be reduced or modified as specified in the WPS

#### USER SAFETY RECOMMENDATIONS

##### Users should

- Wash hands before eating drinking chewing gum using tobacco or using the toilet
- Remove clothing/PPE immediately if pesticide gets inside Then wash thoroughly and put on clean clothing
- Remove PPE immediately after handling this product Wash the outside of gloves before removing As soon as possible wash thoroughly and change into clean clothing

#### ENVIRONMENTAL HAZARDS

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 contaminate water when disposing of equipment washwaters

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 This product is toxic to wildlife and highly toxic to aquatic invertebrates

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water The use of this chemical in areas where soils are permeable particularly where the water table is shallow may result in ground water contamination

**OBSERVE THE FOLLOWING PRECAUTIONS WHEN MIXING AND APPLYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES RESERVOIRS RIVERS PERMANENT STREAMS, MARSHES OR NATURAL PONDS ESTUARIES AND COMMERCIAL FISH FARM PONDS**

#### SPRAY DRIFT MANAGEMENT

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 Avoiding spray drift is the responsibility of the applicator

##### For Aerial Applications

For aerial applications the spray boom should be mounted on the aircraft so as to minimize drift caused by wing tip vortices The minimum practical boom length should be used and must not exceed 75% of the wing span or rotor diameter Spray should be released at the lowest possible height consistent with good pest control and flight safety Applications more than 10 feet above the crop canopy should be avoided

##### Importance of Droplet Size

An important factor influencing drift is droplet size Small droplets (<150-200 microns) drift to a greater extent than large droplets Within typical equipment specifications applications should be made to deliver the largest droplet spectrum that provides sufficient control and coverage Formation of very small droplets may be minimized by appropriate nozzle selection by orienting nozzles away from the airstream as much as possible and by avoiding excessive spray boom pressure

##### Wind Speed Restrictions

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph However many factors including droplet size canopy and equipment specifications determine drift potential at any given wind speed Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area

##### Restrictions During Temperature Inversions

Do not make aerial or ground applications during temperature inversions Drift potential is high during temperature inversions Temperature inversions restrict vertical air mixing which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind They 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 inversions can also be identified by the movement of smoke from a ground source 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 mixing

##### Mixing and Loading Requirements

To avoid potential contamination of groundwater the use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment is recommended If containment pad is not used maintain a minimum distance of 25 feet between mixing and loading area and potential surface to groundwater conduits such as field sumps uncased well heads sinkholes or field drains

##### Airblast (Air Assist) Specific Recommendations for Tree Crops and Vineyards

Airblast sprayers carry droplets into the canopy of trees/vines via a radially or laterally directed air stream The following specific drift management practices should be followed

- Adjust deflectors and aiming devices so that spray is only directed into the canopy
- Block off upward pointed nozzles when there is no overhanging canopy

- Use only enough air volume to penetrate the canopy and provide good coverage
- Do not allow the spray to go beyond the edge of the cultivated area (i.e. turn off sprayer when turning at end rows)
- Only spray inward toward the orchard or vineyard for application to the outside rows

**No Spray Zone Requirements for Soil and Foliar Applications**

Do not apply by ground within 25 feet or by air within 150 feet of lakes reservoirs rivers permanent streams marshes or natural ponds estuaries and commercial fish farm ponds

**Runoff Management**

Do not cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip When using MANA Alias 4F on erodible soils Best Management Practice for minimizing runoff should be employed Consult your local Natural Resources Conservation Service for recommendations in your use area

**Endangered Species Notice**

Under the Endangered Species Act it is a federal offense to use any pesticide in a manner that results in the death of a member of an endangered species Consult your local county bulletin County Extension Agent or Pesticide State Lead Agency for information concerning endangered species in your area

**Resistance Management**

Some insects are known to develop resistance to insecticides after repeated use As with any insecticide the use of this product should conform to resistance management strategies established for the use area

MANA Alias® 4F contains a Group 4A insecticide Insect biotypes with acquired or inherent tolerance to Group 4A insecticides may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominant method of control for targeted species This may eventually result in partial or total loss of control of those species by MANA Alias 4F and to other Group 4A insecticides

The active ingredient in MANA Alias 4F is a member of the neonicotinoid chemical class Insect pests resistant to other chemical classes have not shown cross resistance to MANA Alias 4F In order to maintain susceptibility to this class of chemistry in insect species with high resistance development potential for each crop season 1) make only a single soil application of MANA Alias 4F 2) foliar applications of products from the same class not be made following a long residual soil application of MANA Alias 4F or other neonicotinoid products

If a soil application of MANA Alias 4F has not been made during a crop season and foliar applications are to be made avoid using a block of more than three consecutive applications of MANA Alias 4F and/or other Group 4A products having the same or similar mode of action Following a neonicotinoid block of treatments MANA strongly encourages the rotation to a block of applications with effective products with a different mode of action before using additional applications of neonicotinoid products Using a block rotation or windowed approach along with other IPM practices is considered an effective use strategy for preventing or delaying an insect's ability to develop resistance to this class of chemistry

Do not use MANA Alias 4F or other Group 4A products from the neonicotinoid chemical class for foliar applications on crops previously treated with long residual soil applied products from the neonicotinoid chemical class

Other Group 4A neonicotinoid products used as foliar treatments include Actara Assail Calypso Centric Clutch Couraze Galiant Impulse Intruder Leverage Nuprid Pasada Provado Trimax Pro and Venom

Other Group 4A neonicotinoid products used as soil/seed treatments include Admire Pro Advise Alias Belay Couraze Cruiser Gaucho Macho Macho Max Nuprid Platinum Venom and Widow

Contact your Cooperative Extension specialist certified crop advisor and/or product manufacturer for additional insect resistance management recommendations Also for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.irac-online.org/>

**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 in accordance with its labeling and with the Worker Protection Standard 40 CFR Part 170 This standard contains requirements for the protection of agricultural workers on farms forests nurseries and greenhouses and handlers of agricultural pesticides It contains requirements for training decontamination notification and emergency assistance It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry intervals The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours Exception If the product is soil injected or soil incorporated the Worker Protection Standard under certain circumstances allows workers to enter the treated area if there will be no contact with anything that has been treated

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
- Chemical resistant gloves made of any waterproof material such as barrier laminate butyl rubber nitrile rubber neoprene rubber natural rubber polyethylene polyvinylchloride (PVC) or Viton
- Shoes plus socks

**APPLICATION DIRECTIONS**

For soil applications of MANA Alias 4F direct product into the seed or root zone of crop Failure to place MANA Alias 4F into root zone may result in loss of control or delay in onset of activity Apply MANA Alias 4F with ground or chemigation application equipment

Do not apply MANA Alias 4F in enclosed structures such as planthouses or greenhouses except as specifically instructed in the **TOBACCO, CUCURBIT VEGETABLES FRUITING VEGETABLES and GREENHOUSE VEGETABLES** (Mature plants in production greenhouses) Cucumber Tomato only sections of this label

Apply foliar applications of MANA Alias 4F as a directed or a broadcast foliar spray Thorough coverage of foliage is necessary without runoff for optimum insecticidal efficacy Use adequate spray volumes properly calibrated application equipment and spray adjuvant if necessary to obtain thorough coverage Failure to provide adequate coverage and retention of MANA Alias 4F on leaves and fruit may result in loss of insect control or delay in onset of activity Apply MANA Alias 4F with properly calibrated ground or aerial application equipment Minimum spray volumes unless otherwise specified on crop specific application sections are 10 gallons per acre by ground and 5 gallons per acre by air MANA Alias 4F may also be applied by overhead chemigation (see additional information in **CHEMIGATION** section of this label below) if allowed in crop specific application section

When applied as a soil application optimum activity of MANA Alias 4F results from applications to the root zone of plants to be protected The earlier MANA Alias 4F is available to a developing plant the earlier the protection begins MANA Alias 4F is continuously taken into the roots over a long period of time and the systemic nature of MANA Alias 4F allows movement from roots through the xylem tissue to all vegetative parts of the plant This results in extended residual activity of MANA Alias 4F the control of insects and the prevention and/or reduction of virus transmission or symptom expression and plant health benefits The rate of MANA Alias 4F applied affects the length of the plant protection period Use higher rates when infestations occur later in crop development or where pest pressure is continuous MANA Alias 4F will generally not control insects infesting flowers blooms or fruit Additional crop protection may be required for insects feeding in or on these plant parts and for insects not listed in the crop specific pests controlled sections of this label Additionally specific MANA Alias 4F application instructions are also provided in the crop specific sections of this label

Suppression or less than complete control of certain insect pests that may carry diseases including reduced feeding may also result from a MANA Alias 4F application Complete control of these pests may require supplemental control measures

Generally MANA Alias 4F is not used on crops grown for production of true seed intended for private or commercial planting but may be allowed under state specific supplemental labeling As with any insecticide minimize exposure of MANA Alias 4F to honey bees and other pollinators Do not use MANA Alias 4F on crops requiring bee pollination during bloom and a minimum of 10 days prior to bloom Additional information on MANA Alias 4F uses for these crops and other questions may be obtained from the Cooperative Extension Service PCAs consultants or local Makhteshim Agan of North America Inc representatives

Apply only to plants grown in field type soils potting media or mixtures thereof Do not apply to plants grown in non soil medias such as perlite vermiculite rock wool or other soil less media or plants growing hydroponically Pre mix MANA Alias 4F with water or other appropriate diluent prior to application Keep MANA Alias 4F and water suspension agitated to avoid settling

Do not apply more than 0.5 lb active ingredient per acre per crop season regardless of formulation or method of application unless specified within a crop specific application section for a given crop

**MIXING INSTRUCTIONS**

To prepare the application mixture add a portion of the required amount of water to the spray tank and with agitation add MANA Alias 4F Complete filling tank with balance of water needed Maintain sufficient agitation during both mixing and application MANA Alias 4F may also be used with other pesticides and/or fertilizer solutions Please see **Compatibility** section of this label When tank mixtures of MANA Alias 4F and other pesticides are involved prepare the tank mixture as instructed above and follow suggested **Mixing Order** below

**Mixing Order**

When pesticide mixtures are needed add wettable powders or wettable granules first MANA Alias 4F and other suspension concentrate (flowable) products second and emulsifiable concentrates last Ensure good agitation as each component is added Do not add an additional component until the previous is thoroughly mixed If a fertilizer solution is added a fertilizer/pesticide compatibility agent may be needed Maintain constant agitation during both mixing and application to ensure uniformity of spray mixture

**Compatibility**

Test compatibility of the intended mixture before adding MANA Alias 4F to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order to a pint or quart jar, cap, shake for 5 minutes, and let set for 5 minutes. Do not use if poor mixing or formation of precipitates that do not readily redisperse occurs, which indicates an incompatible mixture.

**CHEMIGATION**

**Types of Irrigation Systems** Make foliar chemigation applications of MANA Alias 4F to crops through overhead sprinkler systems if specified in crop specific application sections. Make soil chemigation applications of MANA Alias 4F only to crops through chemigation as specified in crop specific application sections and only through low pressure systems specifically listed for a given crop. Do not apply MANA Alias 4F through any other type of irrigation system.

Make foliar chemigation applications of MANA Alias 4F as concentrated as possible. Retention of MANA Alias 4F on target site of insect infestation is necessary for optimum activity. Do not chemigate MANA Alias 4F in water volumes exceeding 0.10 inches per acre. See crop specific application sections of the label for more information.

**Uniform Water Distribution and System Calibration** The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact Cooperative Extension Service specialists, equipment manufacturers, or other experts.

**Chemigation Monitoring** 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.

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

**Required System Safety Devices** The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional normally closed solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

**Using Water from Public Water Systems** Public water systems 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 back flow 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 to 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.

**ROTATIONAL CROPS\***

Replant treated areas with any crop specified on an imidacloprid label or any crop for which a tolerance exists for the active ingredient as soon as practical following the last application. For crops not listed on an imidacloprid label or for crops for which no tolerances for the active ingredient have been established, a 12 month plant back interval must be observed.

**IMMEDIATE PLANT BACK**

All crops on this label plus the following crops not on this label: barley, canola, corn (field, pop, and sweet), rapeseed, sorghum, sugarbeet, and wheat.

**30 DAY PLANT BACK**

Cereals (including buckwheat, millet, oats, rice, rye, and triticale), soybeans, and safflower.

**10 MONTH PLANT BACK**

Onion and bulb vegetables.

**12 MONTH PLANT BACK**

All Other Crops.

Plant cover crops for soil building or erosion control at any time, but do not graze or harvest for food or feed.

**FIELD CROPS**

**COTTON – soil treatment**

Pests Controlled	Rate Fluid ounces per 1000 row feet	Rate Fluid ounces per acre
Cotton aphid Plant bugs Thrips Whiteflies	0 65	8 5 –10 55 (depending on row spacing)
<b>Restrictions</b>		
<ul style="list-style-type: none"> <li>Maximum MANA Alias 4F allowed per crop season when making soil applications 10 55 fluid ounces per acre (0 33 lb active ingredient per acre)</li> <li>Regardless of formulation or method of application apply no more than 0 5 lb active ingredient per acre per season including seed treatment soil and foliar uses</li> <li>Do not apply more than a total of 6 applications of the active ingredient per season</li> <li>Do not graze treated fields after any application of MANA Alias 4F See <b>RESISTANCE MANAGEMENT</b> section of this label</li> </ul>		
<b>Applications Apply specified dosage in one of the following methods</b>		
<ul style="list-style-type: none"> <li>In furrow spray during planting directed on or below seed</li> <li>In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting</li> <li>Chemigation into root zone through low pressure drip or trickle irrigation</li> </ul>		

**COTTON – foliar treatment**

Pests Controlled	Rate Fluid ounces per acre
Cotton aphid Cotton fleahopper Bandedwinged whitefly Plant bugs (excludes <i>Lygus hesperus</i> ) Green stink bug Southern green stink bug Bollworm/budworm (ovicidal effect)	1 2
Pest Suppressed	Rate Fluid ounces per acre
<i>Lygus</i> bug ( <i>Lygus hesperus</i> ) Whiteflies (other than bandedwinged whitefly)	1 52 2
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>Pre harvest interval (PHI) 14 days</li> <li>Minimum interval between applications 7 days</li> <li>Maximum MANA Alias 4F allowed per crop season when making foliar applications 10 fluid ounces per acre (0 31 lb AI per acre)</li> <li>Regardless of formulation or method of application apply no more than 0 5 lb active ingredient per acre per season including seed treatment soil and foliar uses</li> <li>Do not graze treated fields after any application of MANA Alias 4F</li> <li>Apply MANA Alias 4F through properly calibrated ground aerial or chemigation application equipment</li> <li>Do not apply more than a total of 6 applications of the active ingredient per season</li> </ul>	
<b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests	

**Tank Mix Instructions**

Pests Controlled (in addition to pests listed above)	MANA Alias 4F Rate fluid ounces per acre	Bidrin® 8 Rate Fluid ounces per acre
For early season control of Thrips	1 1 52	1 6 3 2
For mid to late season control of Plant bugs Stink bugs (including Brown stink bug) Grasshoppers Saltmarsh caterpillar Cotton leafperforator	1 1 52	4 0 8 0
<b>Restrictions (in addition to Restrictions listed above)</b>		
*Refer to the Bidrin 8 product label for specific use directions Observe all restrictions and precautions that appear on the label		

**PEANUT<sup>1</sup> – soil treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers Whiteflies	8 12
Pest Suppressed	Rate Fluid ounces per acre
Thrips	8 – 12

**Restrictions**

- Pre Harvest Interval (PHI) 14 days
- Maximum MANA Alias 4F allowed per season 12 fluid ounces/Acre (0.38 ai/Acre)

<sup>1</sup>Use not permitted in California unless otherwise directed by supplemental labeling

**Applications** Apply specified dosage in one of the following methods

- In furrow spray during planting directed on or below seed
- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment

**Important Note** Increases in Tomato spotted wilt virus (TSWV) incidence have been observed with applications of MANA Alias 4F on multiple varieties of peanut. This may also be the case with other tospoviruses or other viruses transmitted by various thrips species or perhaps other pests. Prior to applying MANA Alias 4F to peanuts consult with the State Cooperative Extension Service or a MANA representative for recommendations. Growers are advised to weigh insect control benefits against potential increase in viral disease levels. In areas where TSWV or other tospovirus are endemic growers are encouraged to use virus resistant varieties and consult the University of Georgia Tomato spotted wilt virus index before applying MANA Alias 4F.

**POTATO – soil treatment**

Pests Controlled	Rate Fluid ounces per 1000 row feet	Rate Fluid ounces per acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Potato psyllid	0.45 0.65	6.5 10.0
Pests/Diseases Suppressed	Rate Fluid ounces per 1000 row feet	Rate Fluid ounces per acre
Symptoms of Potato leaf roll virus (PLRV) Potato yellows Net necrosis Wireworms (with in furrow spray at planting)	0.45 0.65	6.5 10.0

**Restrictions**

- Maximum MANA Alias 4F allowed per crop season when making soil applications 10.0 fluid ounces per acre (0.31 lb active ingredient per acre)

**Applications** Apply specified dosage in one of the following methods

- In furrow spray during planting directed on seed pieces or seed potatoes
- Subsurface side dress on both sides of the row covered with 3 or more inches of soil
- Narrow band spray at ground cracking directly over the row during hilling covered with 3 or more inches of soil
- Narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting. For effective pest control or suppression MANA Alias 4F applications must be placed below soil surface and in contact with seed piece or within root zone. For potatoes grown on highly permeable soils with shallow water table make at plant applications of MANA Alias 4F in a 2 to 4 inch band (width of planter shoe opening) and completely cover.

**POTATO – seed piece treatment**

Pests Controlled	Rate Fluid ounces per 100 lbs of seed	Rate Fluid ounces per acre*
Aphids Colorado potato beetle Flea beetles Leafhoppers Potato psyllid Wireworms (seed piece protection)	0.2 0.4	4.0 8.0
Pests/Diseases Suppressed	Rate Fluid ounces per 1000 row feet	Rate Fluid ounces per acre
Symptoms of Potato leaf roll virus (PLRV) Potato yellows Net necrosis	0.4	8.0

**Restrictions**

- Maximum MANA Alias 4F allowed per crop season when making seed piece treatment applications 10.0 fluid ounces per acre (0.31 lb active ingredient per acre)
- Do not use treated seed pieces for food feed or fodder
- Do not apply any subsequent application of MANA Alias 4F (in furrow) Gaucho Leverage or Provado following an MANA Alias 4F seed piece treatment

**Application** Apply specified dosage as a diluted spray onto seed pieces using a shielded spray system. Dilute with 3 parts water or less to 1 part MANA Alias 4F. Agitate or stir spray solution as needed. Apply fungicidal or inert absorbent dusts after MANA Alias 4F application. Apply only in areas with adequate ventilation or in areas that are equipped to remove spray mist or dust. Plant seed pieces as soon as possible after treating, avoiding prolonged exposure of MANA Alias 4F treated seed pieces to sunlight and in accordance with the recommendation of your local Extension service.

Based on a seeding rate of 2000 lbs per acre

**POTATO – foliar treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Psyllids	1.52

**Applications** Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests.

**Restrictions**

- Pre Harvest Interval (PHI) 7 days
- Minimum Interval between applications 7 days
- Maximum MANA Alias 4F allowed per crop season when making foliar applications 6.4 fluid ounces per acre (0.2 lb AI per acre)



**SOYBEANS – foliar treatment**

PESTS CONTROLLED	RATE (FL OZ/ACRE)
Aphids Bean leaf beetle Cucumber beetles/Rootworm adults Japanese beetle (adults) Leafhoppers Whiteflies	1 5
<b>Notes and Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre harvest Interval (PHI) 7 days</li> <li>• Minimum interval between applications 7 days</li> <li>• Maximum MANA Alias 4F allowed per crop season 4 5 fl oz /acre (0 14 lb AI/A)</li> </ul>	

**TOBACCO – soil treatment**

Pests Controlled	Rate Fluid ounces per 1000 plants (as seedling tray drench)	Rate Fluid ounces per 1000 plants (in furrow or transplant water)
Aphids Flea beetles	0 5	0 7
Mole crickets Whiteflies Wireworms	0 7 1 4	0 9 1 4
Pests/Disease Suppressed	Rate Fluid ounces per 1000 plants (as seedling tray drench)	Rate Fluid ounces per 1000 plants (in furrow or transplant water)
Cutworms Symptoms of Tomato spotted wilt virus (TSWV)	0 7 1 4	0 9 1 4
<b>Restrictions</b>		
<ul style="list-style-type: none"> <li>• Maximum MANA Alias 4F allowed per crop season when making soil applications or foliar sprays to seedlings 16 0 fluid ounces per acre (0 5 lb active ingredient per acre)</li> <li>• Pre Harvest Interval (PHI) 14 days</li> </ul>		
<b>Applications</b> Apply specified dosage in one of the following methods		
<ul style="list-style-type: none"> <li>• Uniform broadcast foliar spray to seedlings in trays (tray drench) not more than 7 days prior to transplanting followed immediately by overhead irrigation to wash MANA Alias 4F from foliage into potting media Failure to wash MANA Alias 4F from foliage may result in a reduction in pest control Handle transplants carefully during setting to avoid dislodging treated potting media from roots</li> <li>• In furrow spray or transplant water drench during setting</li> <li>• Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> </ul>		
<b>Important Note</b> Proper tray drench applications of MANA Alias 4F have been shown to be the most efficacious method of application However apply the specified rate of MANA Alias 4F as a combination of the tray drench in the planthouse and/or transplant water drench in field Adverse growing conditions may cause a delay in uptake of MANA Alias 4F into the plant and a delay in control		

**TOBACCO – foliar treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids	0 8 1 6
Flea beetles Japanese beetle	1 6
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 14 days</li> <li>• Minimum interval between applications 7 days</li> <li>• Maximum MANA Alias 4F allowed per crop season when making foliar applications 8 9 fluid ounces per acre (0 28 lb AI per acre)</li> </ul>	
<b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to an infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests	

**VEGETABLE AND SMALL FRUIT CROPS**

**CUCURBIT VEGETABLES<sup>1</sup> – soil treatment**

**Crops of Crop Group 9 including** Chayote (fruit) Chinese waxgourd (Chinese preserving melon) Citron melon Cuban pumpkin Cucumber Gherkin Gourd (edible includes hyotan cucuzza hechima Chinese okra) *Momordica* spp (includes balsam apple balsam pear bitter melon Chinese cucumber) Muskmelon (hybrids and/or cultivars of *Cucumis melo* including true cantaloupe cantaloupe casaba Crenshaw melon golden pershaw melon honeydew melon honey balls mango melon Persian melon pineapple melon Santa Claus melon snake melon and Winter melon) Pumpkin Squash (includes summer squash types such as butternut squash calabaza crookneck squash Hubbard squash scallop squash straightneck squash vegetable marrow and zucchini and winter squash types such as acorn squash and spaghetti squash) Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)

Field Applications See details below for additional planthouse application instructions	
Pests Controlled	Rate Fluid ounces per acre
Aphids Cucumber beetles Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	8 0 12 0
Pests/ Diseases Suppressed	Rate Fluid ounces per acre
Bacterial wilt (as vectored by various cucumber beetles) Leaf silvering resulting from whitefly feeding	8 0 12 0

**Restrictions**

- Pre Harvest Interval (PHI) 21 days
- Maximum MANA Alias 4F allowed per application when making soil applications 12.0 fluid ounces per acre (0.38 lb/active ingredient per acre)

<sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling [Moved from below per EPA request]

**Applications** Apply the specified dosage in one of the following methods

- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
- In furrow spray directed on or below seed
- Narrow (2 or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1 1/2 inches with sufficient irrigation within 24 hours of application
- Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting
- Post seeding drench transplant water drench or hill drench
- Subsurface side dress on both sides of each row MANA Alias 4F must be incorporated into root zone

**CUCURBIT VEGETABLES<sup>1</sup> – soil treatment (continued)**

**Planthouse Applications\***

Pest Controlled	Rate Fluid ounces per 1000 plants
Aphids Whiteflies	0.05

**Restrictions**

- Maximum amount MANA Alias 4F applied in the planthouse 0.05 fluid ounces (0.00156 lb active ingredient per 1000 plants)
- Maximum number MANA Alias 4F applications in planthouse 1

<sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling  
Use not permitted in CA unless otherwise directed by supplemental labeling

**Applications** Apply specified dosage to seedlings in trays in the planthouse targeting soil media (tray drench) not more than 7 days prior to transplanting in one of the following methods

- Uniform broadcast high volume foliar spray followed immediately by sufficient overhead irrigation to wash MANA Alias 4F from foliage into potting media without loss of gravitational liquid from the bottom of the tray Failure to wash MANA Alias 4F from foliage may result in reduced pest control
- Injection into overhead irrigation system using adequate volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray

The application made in the planthouse will only provide short term protection and is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection. Applications of higher rates or increased number of applications in planthouse may result in significant plant injury. Transplants should be handled carefully during setting to avoid dislodging treated potting media from roots.

**Important Note** Not all varieties of cucurbit vegetables have been tested for tolerance to MANA Alias 4F applied to seedling flats. Treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.

**GREENHOUSE VEGETABLES<sup>1</sup> – soil treatment**

(Mature plants in production greenhouses) Cucumber Tomato only

Pests Controlled	Rate Fluid ounces per 1000 plants
Aphids Whiteflies	0.7

**Restrictions**

- Pre Harvest Interval (PHI) 0 day
- Maximum number MANA Alias 4F applications per crop season when making soil applications 1

<sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling

**Applications** Apply specified dosage in a minimum of 16 gallons of water for tomatoes and 21 gallons of water for cucumbers using soil drenches micro irrigation drip irrigation or hand held or motorized calibrated irrigation equipment. Make applications only to plants grown in field type soils potting media or mixtures thereof. Do not apply to plants grown in non soil medias such as perlite vermiculite rock wool or other soil less media or plants growing hydroponically. Do not apply to immature plants since phytotoxicity may occur. Make applications when infestation pressure surpasses threshold and beneficials are not able to maintain pest populations below damage thresholds. Repellency of bumble bee pollinators and negative effects on some beneficials (*Orius* spp) can occur when MANA Alias 4F is applied. Many varieties of vegetables have been tested for tolerance to MANA Alias 4F and show good safety. However certain varieties may show more sensitivity to MANA Alias 4F. Therefore treat a few plants before treating the whole greenhouse.

**FRUITING VEGETABLES<sup>1</sup> – soil treatment**

Crops of Crop Group 8 plus Okra including Eggplant Ground cherry Okra Pepper (including bell chili cooking pimento and sweet) Tomato Pepinos Tomatillo

**Field Applications** See details below for additional planthouse applications

Pests Controlled	Rate Fluid ounces per Acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	Okra and Pepper 8.0 16.0 Other Crops 8.0 12.0
Diseases Suppressed	Rate Fluid ounces per Acre
Symptoms of Tomato mottle virus Tomato spotted wilt virus Tomato yellow leaf curl virus	Okra and Pepper 8.0 16.0 Other Crops 8.0 12.0

**Restrictions**

- Pre Harvest Interval (PHI) 21 days
- Maximum MANA Alias 4F allowed on pepper and okra crops per application when making soil applications 16.0 fluid ounces/Acre (0.5 lb A.I. per acre)

- Maximum MANA Alias 4F allowed on other fruiting vegetable crops per application when making soil applications 12.0 fluid ounces/Acre (0.38 lb AI/ per acre)
- <sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling
- Applications** Apply specified dosage in one of the following methods
- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
  - In furrow spray directed on or below seed
  - Narrow (2 or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1 ½ inches with sufficient irrigation within 24 hours of application
  - Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting
  - Post seeding drench transplant water drench or hill drench
  - Subsurface side dress on both sides of each row Incorporate MANA Alias 4F into root zone

**FRUITING VEGETABLES<sup>1</sup> – soil treatment (continued)**

Planthouse Applications*	
Pests Controlled	Rate Fluid ounces per 1000 plants
Aphids Whiteflies	0.05
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Maximum amount MANA Alias 4F applied in the planthouse 0.05 fluid ounces (0.00156 lb AI) per 1000 plants</li> <li>• Maximum number MANA Alias 4F applications in planthouse 1</li> </ul> <p><sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling [Moved up to restrictions section]</p> <p>*Use not permitted in CA unless otherwise directed by supplemental labeling</p> <p><b>Applications</b> Apply specified dosage to seedlings in trays in the planthouse targeting soil media (tray drench) not more than 7 days prior to transplanting in one of the following manners</p> <ul style="list-style-type: none"> <li>• Uniform broadcast high volume foliar spray followed immediately by sufficient overhead irrigation to wash MANA Alias 4F from foliage into potting media without loss of gravitational liquid from the bottom of the tray Failure to wash MANA Alias 4F from foliage may result in reduced pest control</li> <li>• Injection into overhead irrigation system using adequate volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray</li> </ul> <p>The application made in the planthouse will only provide short term protection and is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection. Applications of higher rates or increased number of applications in planthouse may result in significant plant injury. Handle transplants carefully during setting to avoid dislodging treated potting media from roots</p> <p><b>Important Note</b> Not all varieties of fruiting vegetables have been tested for tolerance to MANA Alias 4F applied to seedling flats. Treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse</p>	

**FRUITING VEGETABLES<sup>1</sup> – foliar treatment**

Crops of Group 8 plus Okra Including Eggplant Ground cherry Okra Pepper (including bell chili cooking pimento and sweet) Tomato Pepinos Tomatillo

Pests Controlled	Rate Fluid ounces per acre
Aphids Colorado potato beetle Leafhoppers Whiteflies	1.5 - 2.4
Pepper weevil	2.4
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre harvest interval (PHI) 0 day</li> <li>• Minimum interval between applications 5 days</li> <li>• Maximum MANA Alias 4F allowed per crop season when making foliar applications 7.6 fluid ounces per acre (0.24 lb AI per acre)</li> </ul> <p><sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling</p> <p><b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough-uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests.</p> <p>Crops contained within certain Crop Groups recognized by EPA are subject to change. Refer to the EPA website (<a href="http://www.epa.gov">www.epa.gov</a>) for latest Crop Groups.</p> <p>For pepper weevil apply specified dosage of MANA Alias 4F by ground equipment only timing applications prior to a damaging population becoming established. Good coverage of foliage and fruit is necessary for optimum control. Applications of MANA Alias 4F must be incorporated into a full season program where alternations of effective products from multiple classes of chemistry and different modes of action are utilized in a blocked or windowed approach.</p> <p>For additional information please contact your Makhteshim Agan of North America Inc representative Extension Specialist or crop advisor.</p> <p>When targeting adult whiteflies use higher rates</p>	

**GLOBE ARTICHOKE – foliar treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers	1.6 - 4.0

**Restrictions**

- Pre harvest interval (PHI) 7 days
  - Minimum interval between applications 14 days
  - Maximum MANA Alias 4F allowed per crop season when making foliar applications 16 fluid ounces per acre (0.5 lb AI per acre)
- Applications** Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests. Crops contained within certain Crop Groups recognized by EPA are subject to change. Refer to the EPA website ([www.epa.gov](http://www.epa.gov)) for latest Crop Groups.

**HERBS- soil treatment**

**Crops of Crop Subgroup 19A including** Angelica Balm (lemon balm) Basil (fresh and dried) Borage Bumet Camomile Catnip Chervil (dried) Chinese chive Chive Clary Coriander (cilantro or Chinese parsley leaves) Costmary Culantro (leaf) Curry (leaf) Dillweed Horehound Hyssop Lavender Lemongrass Lovage (leaf) Marigold Marjoram Nasturtium Parsley (dried) Pennyroyal Rosemary Rue Sage Savory (summer and winter) Sweet bay (bay leaf) Tansy Tarragon Thyme Wintergreen Woodruff Wormwood

Pests Controlled	Rate Fluid ounces per acre
Aphids Flea beetles Leafhoppers Whiteflies	8 0 12 0
Pests Suppressed	Rate Fluid ounces per acre
Thrips (foliage feeding thrips only)	8 0 12 0

**Restrictions**

- Pre Harvest Interval (PHI) 14 days
  - Maximum MANA Alias 4F per season when making soil applications 12.0 fluid ounces/Acre (0.38 lb AI/Acre)
- Applications** Apply specified dosage in one of the following methods:
- In furrow spray during planting directed on or below seed
  - In furrow spray or transplant water drench during setting or transplanting
  - Shanked into or below eventual seed line
  - Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
- Notes** Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, treat only a small area or small number of plants of each listed above and evaluate prior to commercial use.

**HERBS - foliar treatment**

**Crops of Crop Subgroup 19A including** Angelica Balm (lemon balm) Basil (fresh and dried) Borage Bumet Camomile Catnip Chervil (dried) Chinese chive Chive Clary Coriander (cilantro or Chinese parsley leaves) Costmary Culantro (leaf) Curry (leaf) Dillweed Horehound Hyssop Lavender Lemongrass Lovage (leaf) Marigold Marjoram Nasturtium Parsley (dried) Pennyroyal Rosemary Rue Sage Savory (summer and winter) Sweet bay (bay leaf) Tansy Tarragon Thyme Wintergreen Woodruff Wormwood

Pests Controlled	Rate Fluid ounces per Acre
Aphids Flea beetles Leafhoppers Whiteflies	1 4

**Restrictions**

- Pre Harvest Interval (PHI) 7 days
  - Minimum interval between applications 5 days
  - Maximum MANA Alias 4F allowed per season when making foliar applications 4.2 fluid ounces per acre (0.13 lb AI per acre)
- Applications** Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests. Crops contained within certain Crop Groups recognized by EPA are subject to change. Refer to the EPA website ([www.epa.gov](http://www.epa.gov)) for latest Crop Groups. Apply MANA Alias 4F through properly calibrated ground and aerial application equipment. Thorough coverage with direct contact of the spray material to the target pests is required for optimum control. The addition of an organosilicone based spray adjuvant at a rate not to exceed the adjuvant manufacturer's specified use rate may improve coverage and control.
- Note** Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, treat only a small area or small number of plants of each listed above and evaluate prior to commercial use.

**BRASSICA (COLE) LEAFY VEGETABLES<sup>1</sup> - soil treatment**

**Crops of Crop Group 5 including** Broccoli Broccoli raab (rapini) Brussels sprouts Cabbage Cauliflower Cava c 5 occoli Chinese (gai lon) broccoli Chinese (bok choy) cabbage Chinese (napa) cabbage Chinese mustard (gai choy) cabbage Collards Kale Kohlrabi Mizuna Mustard greens Mustard spinach Rape greens Turnip tops (leaves)

Pests Controlled	Rate Fluid ounces per acre (on 36 inch rows)
Aphids Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	5 0 12 0

**Restrictions**

- Pre Harvest Interval (PHI) 21 days
  - Maximum MANA Alias 4F allowed per application when making soil applications 12.0 fluid ounces/Acre (0.38 lb AI per acre)
- <sup>1</sup>Not for use on crops grown for seed unless allowed by state specific supplemental labeling
- Applications** Apply specified dosage in one of the following methods

- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
- In furrow spray directed on or below seed
- Narrow (2 inches or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1 ½ inches with sufficient irrigation within 24 hours of application
- Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting
- Post seeding drench transplant water drench or hill drench
- Subsurface side dress on both sides of each row MANA Alias 4F must be incorporated into root zone

**BRASSICA (COLE) LEAFY VEGETABLES<sup>1</sup> – foliar treatment**

**Crops of Crop Group 5 including** Broccoli Broccoli raab (rapini) Brussels sprouts Cabbage Cauliflower Cavalo broccoli Chinese (gai lon) broccoli Chinese (bok choy) cabbage Chinese (napa) cabbage Chinese mustard (gai choy) cabbage Collards Kale Kohlrabi Mizuna Mustard greens Mustard spinach Rape greens Turnip tops (leaves)

Pests Controlled	Rate Fluid ounces per acre
Aphids Fleabeetles Leafhoppers Whiteflies	1 5

**Restrictions**

- Pre Harvest Interval (PHI) 7 days
- Minimum interval between applications 5 days
- Maximum MANA Alias 4F allowed per crop season when making foliar applications 7 68 fluid ounces/Acre (0 24 lb AI per acre)

<sup>1</sup>Not for use on crops grown for seed unless allowed by state specific supplemental labeling

**Applications** Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests

Crops contained within certain Crop Groups recognized by EPA are subject to change Refer to the EPA website ([www.epa.gov](http://www.epa.gov)) for latest Crop Groups

**LEAFY VEGETABLES<sup>1</sup> – soil treatment**

**Crops of Crop Subgroup 4A plus Watercress including** Amaranth (leafy amaranth Chinese spinach tampala) Arugula (Roquette) Chervil Chrysanthemum (edible leaved and garland) Cilantro Corn salad Cress (garden) Cress (upland yellow rocket winter cress) Dandelion Dock (sorrel) Endive (escarole) Lettuce (head and leaf) Orach Parsley Purslane (garden and winter) Radicchio (red chicory) Spinach (including New Zealand and vine (Malabar spinach Indian spinach)) Watercress (commercial production only applications must not be made to native cress growing in streams or other bodies of water) Watercress (upland)

Pests Controlled	Rate Fluid ounces per acre (on 36 inch rows)
Aphids Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	5 0 12 0

**Restrictions**

- Pre Harvest Interval (PHI) 21 days
- Maximum MANA Alias 4F allowed per application when making soil applications 12 0 fluid ounces per acre (0 38 lb AI per Acre)

<sup>1</sup>Not for use on crops grown for seed unless allowed by state specific supplemental labeling

**Applications** Apply specified dosage in one of the following methods

- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
- In furrow spray directed on or below seed
- Narrow (2 inches or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1 ½ inches with sufficient irrigation within 24 hours of application
- Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting
- Post seeding drench transplant water drench or hill drench
- Subsurface side dress on both sides of each row MANA Alias 4F must be incorporated into root zone

**LEAFY VEGETABLES<sup>1</sup> – foliar treatment**

**Crops of Crop Subgroup 4A plus Watercress including** Amaranth (leafy amaranth Chinese spinach tampala) Arugula (Roquette) Chervil Chrysanthemum (edible leaved and garland) Cilantro Corn salad Cress (garden) Cress (upland yellow rocket winter cress) Dandelion Dock (sorrel) Endive (escarole) Lettuce (head and leaf) Orach Parsley Purslane (garden and winter) Radicchio (red chicory) Spinach (including New Zealand and vine (Malabar spinach Indian spinach)) Watercress (commercial production only applications must not be made to native cress growing in streams or other bodies of water) Watercress (upland)

Pests Controlled	Rate Fluid ounces per acre
Aphids Flea beetles Leafhoppers Whiteflies	1 5

**Restrictions**

- Pre Harvest Interval (PHI) 7 days
- Minimum interval between applications 5 days
- Maximum MANA Alias 4F allowed per crop season when making foliar applications 7 6 fluid ounces per acre (0 24 lb AI per acre)

<sup>1</sup>Not for use on crops grown for seed unless allowed by state specific supplemental labeling

**Applications** Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests

Crops contained within certain Crop Groups recognized by EPA are subject to change Refer to the EPA website ([www.epa.gov](http://www.epa.gov)) for latest Crop Groups

For applications made to watercress production fields must be drained of water at least 24 hours prior to application and water must not be reapplied to the field for a minimum of 24 hours following the applications. Applications must be made to fully leafed up canopies only

**LEAFY PETIOLE VEGETABLES<sup>1</sup> – soil treatment**

**Crops of Crop Subgroup 4B including** Cardoon Celery Celtuce Chinese celery (fresh leaves and stalk only) Florence fennel (including sweet anise sweet fennel Finocchio) Rhubarb Swiss chard

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	5 0 12 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 45 days</li> <li>Maximum MANA Alias 4F allowed per application when making soil applications 12 0 fluid ounces/Acre (0 38 lb AI per acre)</li> </ul>	
<sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling <b>Applications</b> Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> <li>In furrow spray directed on or below seed</li> <li>Narrow (2 inches or less) surface band spray over seed line during planting incorporated to a depth of 1 to 1 ½ inches with sufficient irrigation within 24 hours of application</li> <li>Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting</li> <li>Post seeding drench transplant water drench or hill drench</li> <li>Subsurface side dress on both sides of each row MANA Alias 4F must be incorporated into root zone</li> </ul>	

**LEGUME VEGETABLES<sup>1</sup> except soybean dry soil treatment**

**Crops of Crop Group 6 including Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean**

**Bean** (*Lupinus* spp includes grain lupin sweet lupin white lupin and white sweet lupin)

**Bean** (*Phaseolus* spp includes field bean kidney bean lima bean navy bean pinto bean runner bean snap bean tepary bean wax bean)

**Bean** (*Vigna* spp includes adzuki bean asparagus bean blackeyed pea catjang Chinese longbean cowpea Crowder pea moth bean mung bean rice bean Southern pea urd bean yardlong bean)

**Pea** (*Pisum* spp includes dwarf pea edible pod pea English pea field pea garden pea green pea snow pea sugar snap pea)

**Other Beans and Peas** [Broad bean (fava) Chickpea (garbanzo bean) Guar Jackbean Lablab bean (hyacinth bean) Lentil Pigeon pea Soybean (immature seed) Sword bean]

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	8 0 12 0
<b>Diseases Suppressed</b>	
Symptoms of Bean common mosaic virus (BCMV) Bean golden mosaic virus (BGMV) Beet curly top hybrigeminivirus (BCTV)	8 0 12 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 21 days</li> <li>Maximum MANA Alias 4F allowed per crop season when making soil applications 12 0 fluid ounces/Acre (0 38 lb AI per acre)</li> </ul>	
<sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling <b>Applications</b> Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> <li>In furrow spray at planting directed on or below seed</li> <li>In a narrow (2 inches or less) surface band over seed line during planting incorporated to a depth of 1 to 1 ½ inches with sufficient irrigation with 24 hours following application</li> <li>In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting</li> <li>As a post seeding drench transplant drench or hill drench</li> </ul>	

**LEGUME VEGETABLES<sup>1</sup> except soybean dry foliar treatment**

**Crops of Crop Group 6 including Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean**

**Bean** (*Lupinus* spp includes grain lupin sweet lupin white lupin and white sweet lupin)

**Bean** (*Phaseolus* spp includes field bean kidney bean lima bean navy bean pinto bean runner bean snap bean tepary bean wax bean)

**Bean** (*Vigna* spp includes adzuki bean asparagus bean blackeyed pea catjang Chinese longbean cowpea Crowder pea moth bean mung bean rice bean Southern pea urd bean yardlong bean)

**Pea** (*Pisum* spp includes dwarf pea edible pod pea English pea field pea garden pea green pea snow pea sugar snap pea)

**Other Beans and Peas** [Broad bean (fava) Chickpea (garbanzo bean) Guar Jackbean Lablab bean (hyacinth bean) Lentil Pigeon pea Soybean (immature seed) Sword bean]

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers Whiteflies	1 4
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Minimum interval between applications 7 days</li> <li>Maximum MANA Alias 4F allowed per crop season when making foliar applications 4 2 fluid ounces per acre (0 13 lb AI per acre)</li> </ul>	
<sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling <b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests. Crops contained within certain Crop Groups recognized by EPA are subject to change. Refer to the EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest	

**Crop Groups**

**ROOT VEGETABLES<sup>1</sup> – soil treatment**

**Crops of Crop Subgroup 1B except Sugarbeet including** Beet (garden)<sup>2</sup> Burdock (edible)<sup>2</sup> Carrot<sup>2</sup> Celenac<sup>2</sup> Chervil (turnip rooted)<sup>2</sup> Chicory<sup>2</sup> Ginseng Horseradish Kava<sup>2,3</sup> Parsley (turnip rooted) Parsnip<sup>2</sup> Radish<sup>2</sup> Oriental radish (diakon)<sup>2</sup> Rutabaga<sup>2</sup> Salsify (oyster plant) Salsify (black)<sup>2</sup> Salsify (Spanish) Skirret and Turnip<sup>2</sup>

Pests Controlled	Rate Fluid ounces per 1000 row feet	Rate Fluid ounces per acre
Aphids Flea beetles Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	0 35 0 85	5 0 12 0

**Restrictions**

- Pre Harvest Interval (PHI) 21 days
- Maximum MANA Alias 4F allowed per crop season when making soil applications 12 0 fluid ounces/Acre (0 38 lb AI per acre)
- Maximum MANA Alias 4F soil applications per crop season 1

<sup>1</sup>Not for use on crops grown for seed unless allowed by a state specific supplemental labeling

<sup>2</sup>Tops or greens from these crops may be utilized for food or feed

<sup>3</sup>Use not permitted in California unless otherwise directed by supplemental labeling

**Application** Apply specified dosage in one of the following methods

- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
- In furrow spray (rate specified per 1000 row feet) or shanked in 1 to 2 inches below seed depth during planting
- In a narrow (2 inches or less) band directly (1 to 2 inches) below the eventual seed row in a bedding operation 14 or fewer days before planting

**Important Note** The rate applied affects the length of control Use higher rates where infestations occur later in crop development or where pest pressure is continuous MANA Alias 4F rates less than 0 7 fluid ounces/1000 row feet will not provide adequate residual pest control MANA Alias 4F treated crops grown on very high organic matter soils (muck) may also require additional pest management control

**ROOT VEGETABLES<sup>1</sup> – foliar treatment**

**Crops of Crop Subgroup 1B except Sugarbeet including** Beet (garden)<sup>2</sup> Burdock (edible)<sup>2</sup> Carrot<sup>2</sup> Celenac<sup>2</sup> Chervil (turnip rooted)<sup>2</sup> Chicory<sup>2</sup> Ginseng Horseradish Kava<sup>2,3</sup> Parsley (turnip rooted) Parsnip<sup>2</sup> Radish<sup>2</sup> Oriental radish (diakon)<sup>2</sup> Rutabaga<sup>2</sup> Salsify (oyster plant) Salsify (black)<sup>2</sup> Salsify (Spanish) Skirret Turnip<sup>2</sup>

Pests Controlled	Rate Fluid ounces per acre
Aphids Flea beetles Leafhoppers Whiteflies	1 4

**Restrictions**

- Pre Harvest Interval (PHI) 7 days
- Minimum interval between applications 5 days
- Maximum MANA Alias 4F allowed per crop season when making foliar applications 1 4 fluid ounces per acre (0 044 lb AI per acre) on Radish 4 2 fluid ounces per acre (0 13 lb AI per acre) on other crops
- Maximum MANA Alias 4F application(s) per crop season 1 on radish 3 on all other crops

<sup>1</sup>Not for use on crops grown for seed unless allowed by state specific supplemental labeling

<sup>2</sup>Tops or greens from these crops may be utilized for food or feed

<sup>3</sup>Use not permitted in California unless otherwise directed by supplemental labeling

**Applications** Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests

Crops contained within certain Crop Groups recognized by EPA are subject to change Refer to the EPA website ([www.epa.gov](http://www.epa.gov)) for latest Crop Groups

**TUBEROUS and CORM VEGETABLES<sup>1</sup> – soil treatment**

**Crops of Crop Subgroup 1C including** Arracacha Arrowroot Artichoke (Chinese and Jerusalem) Cannardible Queensland arrowroot) Cassava (bitter and sweet)<sup>2</sup> Chayote (root) Chufa, Dasheen (taro)<sup>2</sup> Ginger Leren Sweet potato Tanier (cocoyam)<sup>2</sup> Turmeric Yam bean (jicama manioc pea) Yam (true)<sup>2</sup> (For applications on potato see **FIELD CROPS** section)

Pests Controlled	Rate Fluid ounces per 1000 row feet	Rate Fluid ounces per acre
Aphids Flea beetles Leafhoppers Thrips (foliage feeding thrips only) Whiteflies	0 35 0 85	5 0 12 0

**Restrictions**

- Pre Harvest Interval (PHI) from planting application 3 days (leaves) 125 days (corms)
- Maximum MANA Alias 4F allowed per crop season when making soil applications 12 0 fluid ounces/Acre (0 38 lb AI per acre)
- Maximum MANA Alias 4F soil applications per crop season 1

<sup>1</sup>Not for use on crops grown for seed unless allowed by state specific supplemental labeling

<sup>2</sup>Tops or greens from these crops may be utilized for food or feed

**Applications** Apply specified dosage in one of the following methods

- In furrow spray (rate specified per 1000 row feet) over planting materials (hulls) or shanked in 1 to 2 inches below hulls depth at planting
- Side dress not more than 0 3 fluid ounces/1000 row feet no later than 45 days after planting Observe the same PHI as above

**Important Note** The rate applied affects the length of control Use higher rates where infestations occur late in crop development or where pest pressure is continuous MANA Alias 4F rates less than 0 35 fluid ounces/1000 row feet may not provide adequate residual pest control MANA Alias 4F treated crops grown on very high organic matter soils (muck) may also require additional pest management control

**TUBEROUS and CORM VEGETABLES<sup>1</sup> – foliar treatment**

**Crops of Crop Subgroup 1C including** Arracacha Arrowroot Artichoke (Chinese and Jerusalem) Canna (edible Queensland arrowroot) Cassava (bitter and sweet)<sup>2</sup> Chayote (root) Chufa Dasheen (taro)<sup>2</sup> Ginger Leren Sweetpotato<sup>2</sup> Tanier (cocoyam)<sup>2</sup> Turmeric Yam bean (jicama manioc pea) Yam (true)<sup>2</sup> (For applications on potato see **FIELD CROPS** section)

Pests Controlled	Rate Fluid ounces per acre
Aphids Flea beetles Leafhoppers Whiteflies	1 4
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Minimum interval between applications 5 days</li> <li>Maximum MANA Alias 4F allowed per crop season when making foliar applications 1 4 fluid ounces per acre (0 044 lb AI per acre) on Radish 4 2 fluid ounces per acre (0 13 lb AI per acre) on other crops</li> <li>Maximum MANA Alias 4F application(s) per crop season 3 on all crops</li> </ul> <sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling <sup>2</sup> Tops or greens from these crops may be utilized for food or feed <b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests Crops contained within certain Crop Groups recognized by EPA are subject to change Refer to the EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest Crop Groups	

**STRAWBERRY<sup>1</sup> – soil treatment**

Annual and Perennial Crops	
Pests Controlled	Rate Fluid ounces per acre
Aphids Whiteflies	12 0 16 0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 14 days</li> <li>Maximum MANA Alias 4F allowed per crop season when making soil applications 16 0 fluid ounces/Acre (0 50 lb AI per acre)</li> </ul> <sup>1</sup> Do not use both application methods on the same crop in the same season <b>Applications</b> Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment after plants are established or on perennial crops in early spring prior to bud opening</li> <li>As a plant material or plant hole treatment just prior to or during transplanting</li> <li>As a band spray over the row in a minimum of 20 gallons of water per acre followed immediately by overhead irrigation to incorporate product into root zone Do not use plastic or other mulches that limit movement of MANA Alias 4F into root zone</li> </ul> The rate applied affects the length of control Use higher rates where infestations occur later in crop development or where pest pressure is continuous	
Post harvest Use on Perennial Crops	
Pests Controlled	Rate fluid ounces per acre
White grub complex (grubs of Asiatic garden beetle European and Masked chafer Japanese beetle Oriental beetle)	8 0 12 0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 14 days</li> <li>Maximum MANA Alias 4F allowed per season when making soil applications 12 0 fluid ounces per acre (0 38 lb A I per acre)</li> </ul> <sup>1</sup> Do not use both application methods on the same crop in the same season <b>Applications</b> Apply a single application post harvest to coincide with renovation of strawberry fields and during active egg deposition period of beetles Apply specified dosage of MANA Alias 4F in one of the following methods <ul style="list-style-type: none"> <li>As a ground spray via boom or backpack sprayer in a minimum of 20 gallons of water per acre</li> <li>As a row band spray using an adjusted amount of product based on the treated row band area in proportion to the amount required per full acre The bandwidth should be equivalent to the width of the anticipated fruiting bed</li> <li>As a chemigation application with 600 to 1000 gallons of water followed by 0 1 to 0 25 inches irrigation</li> </ul> <b>Important Note</b> Follow all soil surface applications with 0 25 inches of rainfall or overhead irrigation water per acre within 2 hours of application Failure to adequately incorporate MANA Alias 4F into egg deposition zone may result in decreased activity	



**STRAWBERRY – foliar treatment**

<b>Pests Controlled</b>	<b>Rate Fluid ounces per acre</b>
Aphids Spittlebugs Whiteflies	1 5
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre harvest Interval (PHI) 7 days</li> <li>• Minimum interval between applications 5 days</li> <li>• Maximum MANA Alias 4F allowed per crop season when making foliar applications 4 5 fluid ounces per acre (0 14 lb AI per acre)</li> <li>• Do not apply during bloom or within 10 days prior to bloom or when bees are actively foraging</li> </ul>	
<p><b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests Crops contained within certain Crop Groups recognized by EPA are subject to change Refer to the EPA website (<a href="http://www.epa.gov">www.epa.gov</a>) for latest Crop Groups</p>	

**SUGARBEET<sup>1</sup> – soil treatment** For use only in CA

<b>Pests Controlled</b>	<b>Rate Fluid ounces per acre</b>
Aphids Leafhoppers Whiteflies Flea beetles	3 0 6 0
<b>Diseases Suppressed</b>	<b>Rate Fluid ounces per acre</b>
Symptoms of Western yellows/Beet curly top hybri geminivirus (BCTV)	3 0 6 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Maximum MANA Alias 4F allowed per crop season when making soil applications 6 0 fluid ounces/Acre (0 18 lb AI per acre)</li> <li>• Do not apply immediately prior to bud opening or during bloom or when bees are actively foraging</li> </ul>	
<sup>1</sup> Not for use on crops grown for seed unless allowed by state specific supplemental labeling	
<b>Applications</b> Apply specified dosage in the following method	
<ul style="list-style-type: none"> <li>• Apply specified dosage in sufficient carrier volume to insure uniform application Apply directly below each seed furrow either during the bedding operation immediately prior to planting or at the time of planting</li> </ul>	
Apply the low rate to aid establishment of stands in whitefly areas or for early season control of the other pests listed	

Rate Fluid Ounces/Acre	Rate Fluid ounces/1000 row feet Based on average row spacing (in inches)							
	10	15	20	25	30	35	40	45
5	0 10	0 14	0 19	0 24	0 29	0 33	0 38	0 43
6	0 11	0 17	0 23	0 29	0 34	0 40	0 46	0 51
7	0 13	0 20	0 27	0 33	0 40	0 47	0 53	0 60
8	0 15	0 23	0 30	0 38	0 46	0 53	0 61	0 68
9	0 17	0 26	0 34	0 43	0 51	0 60	0 68	0 77
10	0 19	0 29	0 38	0 48	0 57	0 67	0 76	0 86
12	0 23	0 34	0 46	0 57	0 69	0 80	0 92	1 03
14	0 27	0 04	0 54	0 67	0 80	0 94	1 07	1 21
16	0 31	0 46	0 61	0 77	0 92	1 07	1 22	1 38

**TREE BUSH and VINE CROPS**

**BANANA and PLANTAIN – soil treatment**

<b>Pests Controlled</b>	<b>Rate Fluid ounces per acre</b>
Aphids Leafhoppers	8 0 16 0
<b>Pests Suppressed</b>	<b>Rate Fluid ounces per acre</b>
Scales	8 0 16 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 0 day</li> <li>• Maximum MANA Alias 4F allowed per crop season when making soil applications 16 0 fluid ounces per Acre (0 5 lb AI per A)</li> </ul>	
<b>Applications</b> Apply specified dosage in the following method	
<ul style="list-style-type: none"> <li>• Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> </ul>	

**BANANA and PLANTAIN – foliar treatment**

<b>Pests Controlled</b>	<b>Rate Fluid ounces per acre</b>
Aphids Leafhoppers Thrips	3 2
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 0 day</li> <li>• Minimum interval between applications 14 days</li> <li>• Maximum MANA Alias 4F allowed per crop season when making foliar applications 16 0 fluid ounces per acre (0 5 lb AI per acre)</li> </ul>	
<b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed	

Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application For tree and vine crops application rates are based on full size mature trees or vines Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website ([www.epa.gov](http://www.epa.gov)) for latest crop groups

Apply specified dosage as a broadcast or directed spray to infested area insuring thorough coverage MANA Alias 4F may be applied through properly calibrated ground or aerial application equipment Aerial applications of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application

To improve coverage and pest control add a finished spray solution of an organosilicone adjuvant at a rate not to exceed 2.0 fluid ounces per 100 gallons

**BUSHBERRY – soil treatment**

**Crops of Crop Subgroup 13B Including** Blueberry Currant Elderberry Gooseberry Huckleberry Juneberry Ligonberry Salal

Pests Controlled	Rate Fluid ounces per acre
Japanese beetle (adults feeding on foliage) White grub complex (grubs of Asiatic garden beetle European and Masked chafer Japanese beetle and Oriental beetle)	8.0 16.0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Maximum MANA Alias 4F allowed per season when making soil applications 16.0 fluid ounces/Acre (0.5 lb AI per acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> <li>18 inch band on each side of the row followed by irrigation immediately after application</li> </ul> For optimal grub control apply MANA Alias 4F to control 1 <sup>st</sup> or 2 <sup>nd</sup> instar larvae Make application post bloom up to 7 days prior to harvest or post harvest until October 1 <sup>st</sup> For optimum control of Japanese beetle larvae make applications from June 1 to July 15 Application to grass covered rows row middles drive lanes headlands and other grassy areas in and around the berry field will control resident grub populations Applications directed to the root zone will help protect berry plant roots from grub feeding Apply MANA Alias 4F to moist soil If necessary apply one hour of irrigation water immediately before application of MANA Alias 4F To ensure maximum efficacy of soil surface spray apply 1/2 to 1 inch of irrigation water or rainfall within 24 hours of application of MANA Alias 4F to facilitate movement into the soil and into the root zone	

**BUSHBERRY – foliar treatment**

**Crops of Crop Subgroup 13B Including** Blueberry Currant Elderberry Gooseberry Huckleberry Juneberry Ligonberry Salal

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers/Sharpshooters	1.2 1.6
Blueberry maggot Japanese beetle (adults) Thrips (foliage feeding thrips only)	2.4 3.2
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 3 days</li> <li>Minimum interval between applications 7 days</li> <li>Maximum MANA Alias 4F allowed per crop season when making foliar applications 16 fluid ounces per acre (0.5 lb AI per acre)</li> <li>Maximum number of MANA Alias 4F applications per crop season when making foliar applications 5</li> <li>Minimum application volume (water) 20.0 GPA ground 5.0 GPA aerial</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application For tree and vine crops application rates are based on full size mature trees or vines Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest crop groups	

**CANEBERRY – soil treatment**

For use only in CA

**Crops of Crop Subgroup 13A including**

**Blackberry** (*Rubus eubatus* including bingleberry black satin berry boysenberry Cherokee blackberry Chesterberry Cheyenne blackberry coryberry darrowberry dewberry Dirksen thornless berry Himalayaberry hullberry Lavenderberry Loganberry lowberry Lucretiaberry mammoth blackberry marionberry nectarberry olallieberry Oregon evergreen berry phenomenalberry rangeberry ravenberry rossberry Shawnee blackberry youngberry and varieties and/or hybrids of these)  
**Raspberry** (black and red *Rubus occidentalis* *Rubus stngosus* *Rubus idaeus*)

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers Whiteflies	8.0 16.0
Rednecked cane borer	12.0 16.0
<b>Pests Suppressed</b>	
Thrips (foliage feeding thrips only)	8.0 16.0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> </ul>	

- Maximum MANA Alias 4F allowed per season when making soil applications 16.0 fluid ounces/Acre (0.5 lb AI per acre)
  - Do not apply pre bloom or during bloom or when bees are actively foraging
- Soil Application** Apply specified dosage in one of the following methods
- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
  - Basal soil drench in a minimum of 500 gallons solution per acre

**CITRUS (Containerized) – soil treatment**

**Crops of Crop Group 10 Including** Calamondin Citrus citron Citrus hybrids (includes chironja tangelo and tangor) Grapefruit Kumquat Lemon Lime Mandarin (tangerine) Pummelo Orange (sweet and sour) Satsuma mandarin Tangelo White sapote (*Casimiroa* spp) and other cultivars and/or hybrids of these

Pests Controlled	Rate ml/ft <sup>3</sup> container media
Aphid Asian citrus psyllid Blackfly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Whiteflies	0.37
Citrus root weevil (larval complex)	0.62 1.2
Pests Suppressed	Rate ml/ft <sup>3</sup> container media
Citrus thrips (foliage feeding thrips only)	1.25

**Application** Determine volume of container and calculate dosage necessary to treat container. Apply calculated dosage of MANA Alias 4F per container as a soil drench or through low pressure drip or trickle irrigation water. Use sufficient carrier volume to ensure thorough uniform distribution throughout the media without loss of gravitational water from the container. For optimal results make treatment at planting prior to insect infestation. Retreat if necessary. For control of larvae of the citrus root weevil complex make application prior to neonate larvae entering potting media. Utilize higher dosage for heavy infestations.

**CITRUS (Field) – soil treatment**

**Crops of Crop Group 10 Including** Calamondin Citrus citron Citrus hybrids (includes chironja tangelo and tangor) Grapefruit Kumquat Lemon Lime Mandarin (tangerine) Pummelo Orange (sweet and sour) Satsuma mandarin Tangelo White sapote (*Casimiroa* spp) and other cultivars and/or hybrids of these

Pests Controlled	Rate Fluid ounces per acre
Aphids Asian citrus psyllid Blackfly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Termites (FL only) Whiteflies	8.0 16.0
Pests/Diseases Suppressed	Rate Fluid ounces per acre
Citrus nematode Symptoms of Citrus tristeza virus (CTV) through vector control Citrus yellows Thrips (foliage feeding thrips only)	16.0

**Restrictions**

- Pre Harvest Interval (PHI) 0 day
- Maximum MANA Alias 4F allowed per season when making soil applications 16.0 fluid ounces/Acre (0.5 lb AI per Acre)

**Applications** Apply specified dosage in one of the following methods

- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment. For optimum results apply to newly planted trees or those previously trained to drip trickle or micro sprinkler irrigation. Lightly pre wet soil to break soil surface tension prior to applications of MANA Alias 4F. Chemigation application can be made separate to normal irrigation but followed by 10 to 20 minutes of additional watering to move MANA Alias 4F into root zone. Allow 24 hours before initiating subsequent irrigations.
- Soil surface band spray on both sides of the tree. Overlap bands at the tree base to create a continuous band within the drip line area of the tree. To be followed immediately with light sprinkler irrigation sufficient to move the product into the upper portion of the root zone. This method is suitable for very coarse soils with 0-75% organic matter or less.
- Drench to base of tree not exceeding one quart total solution per tree immediately around trunk of tree and extending outward covering the entire fibrous root system of the tree. Use only on trees up to 8 feet tall.
- For control of existing termite infestations apply specified dosage in 1 to 4 quarts of total solution volume depending on size of tree as a drench application to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk.
- For suppression of citrus nematode apply specified dosage through low pressure chemigation or soil surface band spray on y ensuring complete coverage of the root system and utilizing application directions stated above for the respective application method. Repeated and regular use of MANA Alias 4F over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant response.

**CITRUS (Field) – foliar treatment**

**Crops of Crop Group 10 Including** Calamondin Citrus citron Citrus hybrids (includes chironja tangelo and tangor) Grapefruit Kumquat Lemon Lime Mandarin (tangerine) Pummelo Orange (sweet and sour) Satsuma mandarin Tangelo White sapote (*Casimiroa* spp) and other cultivars and/or hybrids of these

Pests Controlled	Rate Fluid ounces per acre
Aphids Asian citrus psyllid Blackfly Leafhoppers/Sharpshooters Leafminers Mealybugs Scales Whiteflies	4.0 8.0 (depending on tree size target pest and infestation pressure)
Pest Suppressed	Rate Fluid ounces per acre
Thrips (foliage feeding thrips only)	4.0 8.0

**Restrictions**

- Pre Harvest Interval (PHI) 0 day
- Minimum interval between applications 10 days
- Maximum MANA Alias 4F allowed per season when making foliar applications 16 fluid ounces per acre (0.5 lb AI per acre)
- Do not apply during bloom or within 10 days prior to bloom or when bees are actively foraging

**Applications** Scales – time applications to the crawler stage. Treat each generation.

Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests. Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines. Crops contained within certain crop groups recognized by EPA are subject to change. Refer to EPA website ([www.epa.gov](http://www.epa.gov)) for latest crop groups.

**COFFEE – soil treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers Leafminers	8 0 16 0
Pest Suppressed	Rate Fluid ounces per acre
Scales	8 0 16 0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Maximum MANA Alias 4F allowed per season when making soil applications 16 0 fluid ounces per Acre (0 5 lb AI per acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> <li>Subsurface side dress shanked into the root zone on both side of the plants followed by irrigation</li> <li>Basal soil drench in sufficient water to insure incorporation into the root zone followed by irrigation</li> </ul>	

**COFFEE – foliar treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers Whiteflies	3 2
Pest Suppressed	Rate Fluid ounces per acre
Scales	3 2
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Minimum interval between applications 7 days</li> <li>Maximum MANA Alias 4F allowed per crop season when making foliar applications 16 fluid ounces per Acre (0 5 lb AI/Acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply specified dosage as a broadcast or directed spray to infested area insuring thorough coverage. Apply MANA Alias 4F through properly calibrated ground or aerial application equipment. Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application. <p>Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests. Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops, application rates are based on full size mature trees or vines. Crops contained within certain crop groups recognized by EPA are subject to change. Refer to EPA website (<a href="http://www.epa.gov">www.epa.gov</a>) for latest crop groups.</p>	

**CRANBERRY – soil treatment**

Pests Controlled	Rate Fluid ounces per acre
Rootgrubs ( <i>Scarabaeidae</i> ) Rootworms ( <i>Chrysomelidae</i> )	8 0 16 0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 30 days</li> <li>Maximum MANA Alias 4F allowed per season when making soil applications 16 0 fluid ounces/Acre (0 5 lb AI/Acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply MANA Alias 4F to moist soil. Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>As a soil spray (ground application) directed to the root and crown area using a minimum of 20 gal of water per acre</li> <li>As a chemigation application with 600 to 1000 gal water</li> </ul> Immediately upon application incorporate MANA Alias 4F into root zone by 0 1 0 3 inches water/Acre either with the chemigation application or through irrigation/rainfall if not applied through chemigation. Inadequate incorporation within 24 hours of application may result in reduced control.	
<b>Rootgrubs and Rootworms</b> Make application post bloom immediately after bees are removed. Target applications to early instar larvae. MANA Alias 4F has not been tested for crop response in tank mixes with other registered fungicides or insecticides. If tank mixing is desired, premix a sample of the MANA Alias 4F and the desired fungicide or insecticide partner at labeled rates and apply to a small test plot. Evaluate crop response within 48 hours and for at least two weeks prior to utilizing the tank mix on larger acreage. If crop injury results from the premix test, do not apply the tank mix to larger acreage.	

**GRAPE – soil treatment**

Including American bunch grape Muscadine grape and Vinifera grape

Pests Controlled	Rate Fluid ounces per acre
European fruit lecanium Leafhoppers/Sharpshooters Mealybugs <i>Phylloxera</i> spp	8 0 16 0

Pest/Disease Suppression	Rate Fluid ounces per acre
Grapeleaf skeletonizer Nematodes Pierce s disease	12 0 16 0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 30 days</li> <li>• Maximum MANA Alias 4F allowed per season when making soil applications 16 0 fluid ounces/Acre (0 5 lb AI/Acre)</li> </ul> <b>Applications</b> Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>• Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> <li>• Subsurface side dress shanked into the root zone on both sides of the plants followed by irrigation</li> <li>• Hill drench in sufficient water to insure incorporation into the root zone followed by irrigation</li> <li>• For suppression of nematodes apply 16 fluid ounces in a single application or two 8 fluid ounce applications on a 30 to 45 day interval Apply treatment(s) only by 1) chemigation into root zone through above ground low pressure drip trickle micro sprinkler or equivalent equipment or 2) French plow technique followed immediately by sufficient irrigation to move the product into the entire root zone of the plant Repeated and regular use of MANA Alias 4F over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant response</li> </ul> For optimum results make application(s) between bud break and the pea berry stage Use a total of 16 0 fluid ounces/Acre under any of the following conditions <ol style="list-style-type: none"> <li>1 Where vigorous vine growth is expected</li> <li>2 In warmer growing areas</li> <li>3 Where mealybug and European fruit lecanium populations are expected to be heavy</li> <li>4 Where vine populations exceed 600 per acre or</li> <li>5 For suppression of nematodes</li> </ol> *Repeated and regular use of MANA Alias 4F over several consecutive growing seasons controls existing <i>Phylloxera</i> infestations over time or prevents <i>Phylloxera</i> from becoming established	

**GRAPE – foliar treatment**

Including American bunch grape Muscadine grape and Vinifera grape

Pests Controlled	Rate Fluid ounces per acre
Leafhoppers/Sharpshooters Mealybugs	1 2 1 6
Grapeleaf skeletonizer	1 5 1 6
<b>Restrictions</b> <ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 0 days</li> <li>• Minimum interval between applications 14 days</li> <li>• Maximum MANA Alias 4F allowed per season when making foliar applications 3 2 fluid ounces/Acre (0 1 lb AI/Acre)</li> </ul> Apply MANA Alias 4F by ground application only <b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application For tree and vine crops application rates are based on full size mature trees or vines Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest crop groups	

**HOP – soil treatment**

Pest Controlled	Rate Fluid ounces per acre
Aphids	9 6
<b>Restrictions</b> <ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 60 days</li> <li>• Maximum MANA Alias 4F allowed per season when making soil applications 9 6 fluid ounces/Acre (0 3 lb AI/Acre)</li> </ul> <b>Applications</b> Apply specified dosage in one of the following methods <ul style="list-style-type: none"> <li>• Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> <li>• Subsurface side dress shanked into the root zone on both sides of the plants followed by irrigation</li> <li>• Hill drench in sufficient water to insure incorporation into the root zone followed by irrigation</li> </ul> Use the higher dosage where extended residual control is desired or for treating larger vines or vines with dense foliage volume	

**HOP – foliar treatment**

Pest Controlled	Rate Fluid ounces per acre
Aphids	3 2
<b>Restrictions</b> <ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 28 days</li> <li>• Minimum interval between applications 21 days</li> <li>• Maximum MANA Alias 4F allowed per season when making foliar applications 9 6 fluid ounces/Acre (0 3 lb AI/Acre)</li> </ul> <b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application For tree and vine crops application rates are based on full size mature trees or vines Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest crop groups	

**POME FRUIT – soil treatment**

**Crops of Crop Group 11 Including Apple Crabapple Loquat Mayhaw Pear (including Oriental pear) Quince**

Pests Controlled	Rate Fluid ounces per acre
Aphids (including Woolly apple aphid) Leafhoppers	8 0 12 0
<b>Restrictions</b> Pre Harvest Interval (PHI) 21 days <ul style="list-style-type: none"> <li>Maximum MANA Alias 4F allowed per season when making soil applications 12 0 fluid ounces/Acre (0 38 lb AI/Acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply specified dosage in the following method <ul style="list-style-type: none"> <li>Chemigation into the root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> </ul>	

**POME FRUIT – foliar treatment**

**Crops of Crop Group 11 Including Apple Crabapple Loquat Mayhaw Pear (including Oriental pear) Quince**

Pests Controlled	Rate Fluid ounces per acre
Leafhoppers	1 6 3 2
Aphids (except Woolly apple aphid) Apple maggot Leafminers San Jose scale	3 2
<b>FOR PEAR ONLY</b> Mealybugs Pear psylla	8
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Minimum interval between applications 10 days</li> <li>Maximum MANA Alias 4F allowed per season when making foliar applications 16 fluid ounces per acre (0 5 lb AI/Acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Combine applications targeting apple maggots with an approved sticker at the manufacturer s specified rates Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application For tree and vine crops application rates are based on full size mature trees or vines Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest crop groups	

**POMEGRANATE – soil treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers/Sharpshooters Whiteflies	8 0 16 0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 0 day</li> <li>Maximum MANA Alias 4F allowed per season when making soil applications 16 0 fluid ounces/Acre (0 5 lb AI per acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply specified dosage in the following method <ul style="list-style-type: none"> <li>Chemigation into the root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> </ul>	

**POMEGRANATE – foliar treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers/Sharpshooters Whiteflies	3 2
<b>Pests suppressed</b> Scales	3 2
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Minimum interval between applications 7 days</li> <li>Maximum MANA Alias 4F allowed per season when making foliar applications 9 6 fluid ounces per acre (0 3 lb AI per acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul> <b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application For tree and vine crops application rates are based on full size mature trees or vines Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest crop groups	

**STONE FRUIT – soil treatment**

**Crops of Crop Group 12 Including Apricot Cherry (including sweet and tart) Nectarine Peach Plum (including Chickasaw Damson and Japanese) Plumcot Prune (fresh and dried)**

In field Soil Application	
Pests Controlled	Rate Fluid ounces per acre
Aphids (including Woolly apple aphid) Leafhoppers	8 0 12 0
<b>Restrictions</b> <ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 21 days</li> <li>Maximum MANA Alias 4F allowed per season when making soil applications 12 0 fluid ounces/Acre (0 38 lb AI/Acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	

<b>Applications</b> Apply specified dosage in the following method	
<ul style="list-style-type: none"> <li>Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment</li> </ul>	
<b>Pre plant Root Dip Application</b>	
<b>Pest Controlled</b>	<b>Rate fluid ounces per 10 gallons root dip solution</b>
Black peach aphid (infesting roots)	1 0
Mix MANA Alias 4F at 1 0 fluid ounces per 10 gallons of water Thoroughly wet bare root transplant to slightly above the graft union by soaking roots in the MANA Alias 4F solution for up to 5 minutes Allow solution to dry on roots and transplant trees as soon as possible following treatment	

**STONE FRUIT – foliar treatment**

**Crops of Crop Group 12 Including** Apricot Cherry (including sweet and tart) Nectarine Peach Plum (including Chickasaw Damson and Japanese) Plumcot Prune (fresh and dried)

<b>Pests Controlled</b>	<b>Rate Fluid ounces per Acre</b>
Aphids Green June beetle Japanese beetle Leafhoppers/Sharpshooters Plant bugs Rose chafer San Jose scale	1 6 3 2
Cherry fruit fly	2 4 3 2
<b>Pests Suppressed</b>	<b>Rate Fluid ounces per Acre</b>
Plum curculio Stink bugs	3 2
<b>Restrictions for Apricot Nectarine Peach</b>	
<ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 0 day</li> <li>Minimum interval between applications 7 days</li> <li>Maximum MANA Alias 4F allowed per season when making foliar applications 9 6 fluid ounces/Acre (0 3 lb AI/Acre)</li> <li>Minimum application volume (water) 50 GPA – ground application 25 GPA aerial application</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	
<b>Restrictions for Cherries Plums Plumcot Prune</b>	
<ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Minimum interval between applications 10 days</li> <li>Maximum MANA Alias 4F allowed per season when making foliar applications 16 0 fluid ounces/Acre (0 5 lb AI/Acre)</li> <li>Minimum application volume (water) 50 GPA – ground application 25 GPA aerial application</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	
<b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application For tree and vine crops application rates are based on full size mature trees or vines Crops contained within certain crop groups recognized by EPA are subject to change Refer to EPA website ( <a href="http://www.epa.gov">www.epa.gov</a> ) for latest crop groups	

**TREE NUTS – soil treatment**

**Crops of Crop Group 14 Including** Beechnut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert Hickory nut Macadamia nut Pecan Pistachio Walnut [black and English]

<b>Pests Controlled</b>	<b>Rate Fluid ounces per acre</b>
Aphids Leafhoppers/Sharpshooters Mealybugs Spittlebugs Termites Whiteflies	8 0 16 0
<b>Pests/Diseases Suppressed</b>	<b>Rate Fluid ounces per acre</b>
Pecan scab (from reduction in honeydew deposition)	8 0 16 0
Thrips (foliage feeding thrips only)	16 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>Pre Harvest Interval (PHI) 7 days</li> <li>Maximum MANA Alias 4F allowed per season when making soil applications 16 0 fluid ounces/Acre (0 5 lb AI/Acre)</li> <li>Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	
<b>Applications</b> Apply specified dosage prior to or at onset of pest infestation in one of the following methods	
<ul style="list-style-type: none"> <li>Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent irrigation equipment Pre wet soil prior to applications of MANA Alias 4F and allow soil to dry following application and prior to subsequent irrigation</li> <li>Emitter or spot application in a minimum of 4 fluid ounces of mixture per emitter site</li> <li>Shank or subsurface side dress injected to a depth just above or just within the root zone and between the trunk and drip line of the tree canopy Product should be applied in a minimum of 10 gallons per acre using multiple shanks on both sides of trees Ensure product placement is below sod or orchard floor debris Irrigation covering entire treated area should follow within 48 hours to promote uptake by root system</li> <li>For control of termites apply specified dosage to slightly moist soil as a high volume drench to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk Utilize sufficient carrier volume to penetrate the soil to a depth of 18 24 inches to obtain optimum control Allow soil to dry following treatment and prior to applying any irrigation</li> </ul>	
<b>Remarks</b> Use the higher rates when applied by shank or subsurface side dress used on larger trees soils with high clay content for high plant populations and/or where extended control is desired Under some conditions control may not occur for 14 or more days or until two (2) irrigations have been made Applications made later in the season may result in reduced efficacy	

**TREE NUTS – foliar treatment**

**Crops of Crop Group 14 Including** Beechnut Brazil nut Butternut Cashew Chestnut Chinquapin Filbert Hickory nut Macadamia nut Pecan Pistachio Walnut [black and English]

Pests Controlled	Rate Fluid ounces per acre
Aphids (except black pecan aphid) Leafhoppers/Sharpshooters Phylloxera spp (leaf infestations) Spittlebugs Whiteflies	1 4 2 8
Black pecan aphid Mealybugs San Jose scale	3 2
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 7 days</li> <li>• Minimum interval between applications 6 days</li> <li>• Maximum MANA Alias 4F allowed per crop season when making foliar applications 11.5 fluid ounces/Acre (0.36 lb AI/Acre)</li> <li>• Minimum application volume (water) 50 GPA ground application 25 GPA aerial application</li> <li>• Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	
<p><b>Applications</b> Applications for control of San Jose scale should be timed according to crawler stage treating each successive generation. Two applications on a 10 to 14 day interval may be required to achieve control. Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests. Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops application rates are based on full size mature trees or vines. Crops contained within certain crop groups recognized by EPA are subject to change. Refer to EPA website (<a href="http://www.epa.gov">www.epa.gov</a>) for latest crop groups.</p>	

**TROPICAL FRUIT – soil treatment**

Including Acerola Atemoya Avocado Birda Black sapote Canistel Cherimoya Custard apple Feijoa Jaboticaba Guava Llama Longan Lychee Mamey sapote Mango Papaya Passionfruit Persimmon Pulasan Rambutan Sapodilla Soursop Spanish lime Star apple Starfruit Sugar apple Wax jambu

Pests Controlled	Rate Fluid ounces per acre
Aphids Avocado lacebug Leafhoppers Whiteflies	12 0 16 0
<b>Pests Suppressed</b>	
Scales Thrips (foliage feeding thrips only)	16 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 6 days</li> <li>• Maximum MANA Alias 4F allowed per season when making soil applications 16.0 fluid ounces/Acre (0.5 lb AI/A)</li> <li>• Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	
<p><b>Applications</b> Apply specified dosage in the following method</p> <ul style="list-style-type: none"> <li>• Chemigation through low pressure drip trickle micro sprinkler or equivalent equipment</li> </ul>	

**TROPICAL FRUIT – foliar treatment**

Including Acerola Atemoya Avocado Birda Black sapote Canistel Cherimoya Custard apple Feijoa Jaboticaba Guava Llama Longan Lychee Mamey sapote Mango Papaya Passionfruit Persimmon Pulasan Rambutan Sapodilla Soursop Spanish lime Star apple Starfruit Sugar apple Wax jambu

Pests Controlled	Rate Fluid ounces per acre
Aphids Leafhoppers/Sharpshooters Mealybugs Thrips (foliage feeding thrips only) Whiteflies	3 2
<b>Pest Suppressed</b>	
Scales	3 2
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Pre Harvest Interval (PHI) 7 days</li> <li>• Minimum interval between applications 10 days</li> <li>• Maximum MANA Alias 4F allowed per crop season when making foliar applications 16.0 fluid ounces per acre (0.5 lb AI/A)</li> <li>• Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	
<p><b>Applications</b> Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or from improved control of other pests. Aerial application of MANA Alias 4F may result in slower activity and reduced control relative to results from ground application. For tree and vine crops application rates are based on full size mature trees or vines. Crops contained within certain crop groups recognized by EPA are subject to change. Refer to EPA website (<a href="http://www.epa.gov">www.epa.gov</a>) for latest crop groups.</p>	

**OTHER CROPS**

**CHRISTMAS TREE – soil treatment**

Pests Controlled	Rate Fluid ounces per acre
White grub complex (damage from grubs of Asiatic garden beetle European and Masked chafer Japanese beetle and Oriental beetle)	8 0 16 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Maximum MANA Alias 4F allowed per season when making soil applications 16.0 fluid ounces/Acre (0.5 lb AI/Acre)</li> </ul>	
<p><b>Applications</b> Soil incorporation and movement of MANA Alias 4F to the root zone is required for activity. MANA Alias 4F can be incorporated most readily when applied to moist soil. Apply specified dosage in one of the following methods</p>	



- Chemigation into root zone through low pressure drip trickle micro sprinkler or equivalent equipment
  - 18 inch band on each side of the row (small trees) to full broadcast application (large trees) followed by rainfall or 0.25 inch of irrigation within 12 hours after application
- For optimal grub control apply MANA Alias 4F during adult flight activity or up to mid July when 1<sup>st</sup> instar larvae are present

**CHRISTMAS TREE – foliar treatment**

Pests Controlled	Rate Fluid ounces per acre
Aphids Adelgids Sawflies	1 6 3 2
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Minimum interval between applications 7 days</li> <li>• Maximum MANA Alias 4F allowed per crop season when making foliar applications 16.0 fluid ounces/Acre (0.5 lb AI/Acre)</li> </ul>	
<b>Applications</b> Gall forming adelgids – time applications to coincide with full bud swell of earliest bud breaking trees. Once galls form spraying will be ineffective.	
Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build. Thorough uniform coverage is necessary to achieve optimum control. Use a spray adjuvant to improve coverage. MANA Alias 4F may not knockdown established and heavy insect populations. Two applications may be required to achieve control. Scout fields and retreat if needed. Tank mix MANA Alias 4F with other insecticides for knockdown of pests or for improved control of other pests.	

**POPLAR/COTTONWOOD<sup>1</sup> – soil treatment**

(includes members of the genus *Populus* grown for pulp or timber)

Field Applications See details below for Cuttings/Whips Applications	
Pests Controlled	Rate Fluid ounces per acre
Aphids Cottonwood leaf beetle	8 0 16 0
<b>Pest Suppressed</b>	
<i>Phylloxera populana</i>	8 0 16 0
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Maximum MANA Alias 4F allowed at plant per crop season 16.0 fluid ounces/Acre (0.5 lb AI/Acre)</li> <li>• Do not apply pre bloom or during bloom or when bees are actively foraging</li> </ul>	
<sup>1</sup> Use not permitted in California unless otherwise directed by supplemental labeling	
<b>Applications</b> Apply specified dosage in the following method	
<ul style="list-style-type: none"> <li>• Chemigation through low pressure drip irrigation</li> <li>• For narrow row cutting orchards/nurseries used for plant propagation shank into root zone followed by adequate irrigation to promote uptake (Adequate irrigation depends on soil moisture level at application. Under dry conditions use 0.25 inches/Acre)</li> </ul>	
For Cottonwood leaf beetle protection against damage will occur when application is made early season when the beetles first begin feeding. Larger trees may require earlier treatment as a result of slower uptake.	
For <i>Phylloxera</i> apply early in the year from break of dormancy through May.	
Cutting/Whip Applications See details above for Field Applications	
Pest Controlled	Cutting/Whip Soaking Solution fluid ounces MANA Alias 4F Needed per 100 gallons
Cottonwood leaf beetle	6 6 13 3 (unhydrated cuttings/whips) 13 3 20 0 (partially hydrated cuttings/whips)
<b>Pests Suppressed</b>	
Aphids <i>Phylloxera populana</i>	6 6 13 3 (unhydrated cuttings/whips) 13 3 20 0 (partially hydrated cuttings/whips)
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Maximum MANA Alias 4F allowed at plant per crop season 16.0 fluid ounces/Acre (0.5 lb AI/Acre)</li> </ul>	
<sup>1</sup> Use not permitted in California unless otherwise directed by supplemental labeling	
<b>Applications</b> Moisture content of cuttings/whips prior to application, the solution concentration, and the length of soaking interval interact to affect the amount of product absorbed into plant material. For a constant soaking interval of 24 hours, drier cuttings/whips absorb a higher quantity of solution and require a lower concentration. Conversely, more hydrated cuttings/whips absorb less solution and require a higher concentration. Soaking of cuttings/whips should occur in a covered container in absence of UV light. Not all <i>Populus</i> spp clones/varieties/hybrids have been tested for crop safety. Without specific knowledge about a particular <i>Populus</i> spp clone/variety/hybrid Makhteshim Agan of North America, Inc. suggests that small numbers of cuttings/whips of each be treated and evaluated prior to commercial use.	
Apply MANA Alias 4F in one of the following cuttings/whips soaking methods	
<ul style="list-style-type: none"> <li>• For freshly cut (unhydrated) cuttings/whips, soak plant material in specified solution concentration for 24 hours prior to cold storage. After removal from cold storage, plant as needed.</li> <li>• For previously hydrated cuttings/whips removed from cold storage, allow plant material to reach room temperature and soak in specified solution concentration for 24 hours prior to planting.</li> </ul>	
Take proper care in disposal of any residual soaking solution. Apply solution to existing trees or other registered crops as long as all product label precautions and restrictions are observed.	

**POPLAR/COTTONWOOD<sup>1</sup> – foliar treatment**

(includes members of the genus *Populus* grown for pulp or timber)

Pests Controlled	Rate Fluid ounces per acre
Aphids Leaf beetles	1 6 3 2
<b>Restrictions</b>	
<ul style="list-style-type: none"> <li>• Minimum interval between applications 10 days</li> </ul>	

- Maximum MANA Alias 4F allowed per crop season when making foliar applications 16 fluid ounces per acre (0.5 lb AI per acre)
  - Do not apply pre bloom or during bloom or when bees are actively foraging
- Use not permitted in California unless otherwise directed by supplemental labeling
- Applications** Apply specified rate per acre as a broadcast or directed foliar spray to infested area as pest populations begin to build Thorough uniform coverage is necessary to achieve optimum control Use a spray adjuvant to improve coverage MANA Alias 4F may not knockdown established and heavy insect populations Two applications may be required to achieve control Scout fields and retreat if needed Tank mix MANA Alias 4F with other insecticides as knockdown of pests or for improved control of other pests

**STORAGE AND DISPOSAL**

Do not contaminate water food or feed by storage or disposal or cleaning of equipment Open dumping is prohibited  
**PESTICIDE STORAGE** Keep pesticide in original container Do not put concentrate or dilute into food or drink containers Store in cool dry place Do not store diluted spray

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

**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 If recycling is not available puncture and dispose of in a sanitary landfill or incineration or if allowed by State and local authorities by burning If burned stay out of smoke

**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 If recycling is not available puncture and dispose of in a sanitary landfill or incineration or if allowed by State and local authorities by burning If burned stay out of smoke

**Refillable Container (greater than 55 gallons)** Refillable container Refill this container with imidacloprid 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

**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

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