

TIVADO™



Contains spirotetramat, the active ingredient used in Movento®.

For Agricultural Use Only:
For control of listed insects on certain tree, tropical fruits, vine, and vegetable crops.

ACTIVE INGREDIENT:	(% by weight)
Spirotetramat: <i>cis</i> -3-(2,5-dimethylphenyl)-8-methoxy-2-oxo-1-azaspiro[4.5]dec-3-en-4-yl-ethyl carbonate.	22.4%
OTHER INGREDIENTS:	77.6%
TOTAL	100.0%
Contains 2.00 pounds spirotetramat per U.S. gallon (240 grams AI/liter)	
EPA Reg. No.: 91234-392	

KEEP OUT OF REACH OF CHILDREN
CAUTION

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

See below for additional Precautionary Statements.

FIRST AID	
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor immediately for treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information.	
NOTE TO PHYSICIAN: No specific antidote is available. Treat the patient symptomatically.	

For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

Tivado™ is not manufactured, or distributed by Bayer CropScience, seller of Movento®.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical resistant gloves made of barrier laminate, butyl rubber $\geq$ 14 mils, nitrile rubber $\geq$ 14 mils, neoprene rubber $\geq$ 14 mils, polyvinyl chloride (PVC) $\geq$ 14 mils, or Viton $\geq$ 14 mils.
- Shoes plus socks.

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

ENGINEERING CONTROLS

When handlers use closed systems, or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.607 (d-f)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product.

ENVIRONMENTAL HAZARDS

For Terrestrial Use: This pesticide is toxic to aquatic invertebrates and oysters. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. This product may contaminate water through drift of spray in wind. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This chemical has 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.

This product is potentially toxic to honey bee larvae through residues in pollen and nectar, but not to adult honeybees. Exposure of adult bees to direct treatment or residues on blooming crops can lead to effects on honeybee larvae. See the **DIRECTIONS FOR USE** section of this label for specific crop application instructions that minimize risk to honey bee larvae.

RUNOFF MANAGEMENT

This product may contaminate water through runoff or drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds,

streams, and springs will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

ENDANGERED SPECIES ADVISORY/PROTECTION REQUIREMENTS

The use of any pesticide in a manner that may kill or otherwise harm endangered species or adversely modify their habitat is a violation of Federal law.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read the entire label before using this product.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **24 hours** following application.

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 barrier laminate, butyl rubber $\geq$ 14 mils, nitrile rubber $\geq$ 14 mils, neoprene rubber $\geq$ 14 mils, polyvinyl chloride (PVC) $\geq$ 14 mils, or Viton $\geq$ 14 mils.
- Shoes plus socks.

PRODUCT INFORMATION

Tivado is a suspension concentrate formulation and is active primarily by ingestion against immature target pest life stages. In addition, fertility of adult female target pests, such as aphids and whiteflies, may be reduced. **Tivado** Can be applied by air, ground equipment or through chemigation as a preventative treatment or timed to coincide with an early threshold level in developing insect populations.

Tivado Must be tank-mixed with a spray adjuvant/additive having spreading and penetrating properties to maximize leaf uptake and systemicity of the active ingredient within treated plants; please contact your local Atticus, LLC representative or PCA for specific recommendations by crop.

It is widely known that tank mixtures and/or sequential treatments of horticultural spray oil with Captan and/or sulfur may cause adverse plant compatibility in tree and vine crops; including **Tivado** in this tank mix and/or sequential treatment scenario is not recommended.

Following application to plant foliage, **Tivado** is fully systemic, moving through phloem and xylem to new shoot, leaf and root tissues; systemicity and efficacy may be hindered during periods of cold temperatures, under drought conditions, or when plants are not actively growing.

APPLICATION INSTRUCTIONS

Foliar spray applications must be made using properly calibrated ground sprayers, fixed- or rotary-winged aircraft or through properly designed, sprinkler-type, chemigation equipment (See **Chemigation Application** section). Sufficient spray volume, based on the size and density of the treated crop, must be utilized that allows for good coverage of both young and old foliage without runoff or collection of spray solution on leaf margins, fruit, or other plant tissues. For optimum control of target pests on tree and vine crops, treating both sides of the plant during the same application period is recommended; for practices such as alternate row middles or tops and bottoms, both sides of the trees or vines must be treated within a 72-hour period. Good coverage will help ensure maximum uptake by leaf surfaces and optimum systemicity within the plant.

- Ground applications must be made in a minimum of 50 gallons per acre on tree and vine crops; 15 gallons of water per acre on potato and vegetable crops.
- Aerial applications must be made in a minimum of 10 gallons of water per acre in tree and vine crops, and 5 gallons of water per acre in vegetable, and potato crops. The higher dosage of **Tivado** within the crop/pest-specific section may be necessary for optimum control for aerial applications.

USE RESTRICTIONS

- Do not use in enclosed structures, such as greenhouses or planthouses.
- For annual crops where multiple plantings can occur within a calendar year, do not apply more than 30 fl. oz. (0.47 lb. ai) per acre within a calendar year unless specified otherwise within a crop-specific section for a given crop.
- Sufficient leaf tissue must be present for uptake and translocation of this product; due to this requirement, do not apply prior to petal-fall on pome fruits, stone fruits, and tree nut crops.
- The use of Induce® adjuvant in combination with **Tivado** on grape, pome fruits, and stone fruits is prohibited when fruit is present due to adverse plant compatibility on harvested commodities.
- Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions.

Refer to the specific use directions and restrictions in each crop, crop group or crop subgroup table.

INSECT RESISTANCE MANAGEMENT RECOMMENDATIONS

Tivado contains an active ingredient with a mode of action classified as a Group 23 Insecticide, i.e., a lipid biosynthesis inhibitor (LBI). To delay insecticide resistance:

- 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.
- Atticus, LLC strongly encourages that **Tivado**, applied alone or in tankmix combination with another Group 23 product, be applied in a block rotation or windowed approach with products from other chemical classes having a different mode of action before using additional applications of Group 23 insecticides against the same target pest. Using a block rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying an insect pest's ability to develop resistance to a given class of chemistry.

Contact your local extension specialist, certified crop advisor, and/or Atticus, LLC representative for additional resistance management or IPM recommendations. Also, for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://irac-online.org>.

CHEMIGATION - VEGETABLE AND POTATO CROPS ONLY

TYPES OF IRRIGATION SYSTEMS

Apply this product only through:

- Sprinkler type irrigation systems only. These types include: center pivot, lateral move, side roll, or overhead solid set irrigation systems.
- Do not apply **Tivado** through any other type of irrigation system.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

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 chemigation system must be calibrated to uniformly apply the rates specified in crop-specific label sections. If you have questions about calibration, contact your Cooperative Extension Service agent, 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.

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/engine stops or in cases where there is no water pump, when water pressure decreases to the point where pesticide distribution is adversely affected. 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

Do not connect an irrigation system (including greenhouse system) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, 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 the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump. 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.

INJECTION FOR CHEMIGATION

Inject the specified dosage of **Tivado** into the irrigation main water stream: (1) through a constant flow, metering device; (2) into the center of the main line flow via a pitot tube or equivalent; (3) at a point ahead of at least one, right-angle turn in the main stream flow such that thorough mixing with the irrigation water is ensured.

CENTER-PIVOT AND AUTOMATIC-MOVE LINEAR SYSTEMS

Inject the specified dosage per acre continuously for one complete revolution (center pivot) or move of the system. The system should be run at maximum speed. It is recommended that nozzles in the immediate area of control panels, chemical supply tanks, pumps, and system safety devices be plugged to prevent chemical contamination of these areas. The use of END GUNS is NOT RECOMMENDED. End guns that provide uneven distribution of treated water can result in lack of effectiveness or illegal pesticide residues in or on the crop.

SOLID SET AND MANUALLY CONTROLLED LINEAR SYSTEMS

Injection should be during the last 30 to 60 minutes of regular irrigation period or as a separate 30 to 60 minute application not associated with a regular irrigation.

CHEMIGATION APPLICATION INSTRUCTIONS

Chemigation applications must be made as concentrated as possible. For best results apply at 100% input/travel speed, for center pivots or 0.1 inch (2,716 gallons) up to 0.15 inch (4,073 gallons) of water/A, for other systems. The higher dosage of **Tivado** within the crop-specific/pest section may be necessary for optimum control for chemigation applications.

FLUSHING AND CLEANING THE CHEMICAL INJECTION SYSTEM

At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

In order to apply pesticides accurately, the chemical injection system must be kept clean, free of chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

SPRAY DRIFT MANAGEMENT

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

DROPLET SIZE

An important factor influencing drift is droplet size. Select nozzles and pressure that deliver medium spray droplets as indicated in nozzle manufacturer's catalogs and in accordance with ASAE Standard S-572. Nozzles that deliver coarse spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain crop coverage. For aerial application, 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. Low humidity and high temperature increase the evaporation rate of spray droplets and therefore the likelihood of spray drift to aquatic areas. Avoid spraying during conditions of low humidity and/or high temperature.

WIND SPEED

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. Avoiding applications when wind direction is toward an aquatic area can reduce risk exposure to sensitive aquatic areas.

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, the movement of smoke from a ground source can also identify inversions. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

AIRBLAST (AIR ASSIST) APPLICATIONS FOR TREE CROPS AND VINEYARDS

Airblast sprayers carry droplets into the canopy of trees/vines via a radial, or lateral directed air stream. The following 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 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);
- For applications to the outside rows, only spray inward, toward the orchard/grove.

AERIAL APPLICATIONS

- Mount the spray boom on the aircraft so as to minimize drift caused by wing tip vortices.
- The minimum practical boom length should be used, and should not exceed 75% of the wing span or rotor diameter.
- Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety.

COMPATIBILITY TESTING AND TANK MIX PARTNERS

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

- When considering mixing **Tivado** with other pesticides, or other additives, first contact your supplier for advice.
- For further information, contact your local Atticus, LLC representative.
- If your supplier and Atticus, LLC representative have no experience with the combination you are considering, you should conduct a test to determine physical compatibility.
- To determine physical compatibility, add the recommended proportions of each chemical with the same proportion of water, as will be present in the chemical supply tank, into a suitable container, mix thoroughly and allow to stand for five minutes. If the combination remains mixed, or can be readily re-mixed, the mixture is considered physically compatible.

COMPATIBILITY

Tivado is physically and biologically compatible with many registered pesticides and fertilizers or micronutrients. However, it is known that many components, including crop protection products, fertilizers, micronutrients, and spray adjuvants, may be present in a tank mix combination. There is potential for adverse chemical reactions. It is impossible to determine physical, biological, and plant compatibility for all scenarios that may be encountered; therefore, it is recommended that users determine the chemical, physical, biological and plant compatibility of such mixes prior to making applications on a broad commercial scale. Observe the most restrictive of the labeling instructions and precautions of all products used in mixtures.

ORDER OF MIXING

The proper mixing procedure for **Tivado** alone or in tank mix combinations with other pesticides is:

1. Fill the spray tank 1/4 to 1/3 full with clean water;
2. While recirculating and with the agitator running, add any products in Polyvinyl acetate (PVA) bags (See Note). Allow time for thorough mixing;
3. Continue to fill spray tank with water until 1/2 full;
4. Add any other wettable powder (WP) or wettable granules (WG) products;
5. Add the required amount of **Tivado**, and any other "flowable" (FL or SC) type products; add required amount of **Tivado**, and;
6. Allow enough time for thorough mixing of each product added to tank;
7. If applicable, add any remaining tank mix components: emulsifiable concentrates (EC), fertilizers and micronutrients;
8. Fill spray tank to desired level and maintain constant agitation to ensure uniformity of spray mixture.

NOTE: Do not use PVA packets in a tank mix with products that contain boron or release free chlorine. The resultant reaction of PVA and boron or free chlorine is a plastic that is not soluble in water or solvents. For tank mixing with **Tivado**, WSP packaged product user must carefully follow the label directions provided on those product labels.

ROTATIONAL CROPS

Tivado is labeled for use on the following crops:

Banana And Plantain, Brassica (Cole) Leafy Vegetables (crop group 5), Bulb Vegetables (crop group 3-07A & 3-07B), Bushberry and Low Growing Berry (Crop Subgroups 13-07B and 13-07H), Carrot, Christmas Tree Plantations, Citrus Fruits (crop group 10-10), Coffee, Fruiting Vegetables (crop group 8-10), Globe Artichoke, Hops, Leafy Vegetables (except Brassica) (crop group 4), Legume Vegetables (except Soybean, dry) (crop group 6), Pineapple, Pome Fruits (crop group 11-10), Pomegranate, Potato And Other Tuberous And Corm Vegetables (crop group 1C), Small Fruit Vine Climbing Subgroup (except Fuzzy Kiwifruit) (crop group 13-07F), Soybean, Stone Fruits (crop group 12-12), Sugar beet, Tree Nuts (crop group 14-12), Tropical Fruits, and Watercress.

- Treated areas may be replanted with any crop specified on this label, or any crop for which a tolerance exists for the active ingredient, as soon as practical following the last application.
- Do not plant or replant any crop not listed on this label within 30 days after the last application except watercress, which has a 260-day plant-back interval (PBI).

SPECIFIC CROP DIRECTIONS

CROP USE DIRECTIONS

Apply specified dosage of **Tivado** early in the infestation as the population begins to develop or at early threshold for the target insect pest. Apply higher dosages specified within the crop specific sections when applied as a preventive application, for moderate to heavy insect pressure, or where longer residual control is desired. Degree of efficacy against labeled pests will be determined, in part, by the stage of pest development at application and infestation level of those pests.

Apply in adequate water for uniform coverage. For tree and vine crops, apply in a minimum of 50 GPA for conventional ground airblast sprayer, 30 GPA for high air velocity, low volume or air curtain sprayers, 10 GPA for aerial application; rates for tree and vine crops are based on full-size mature trees and vines. For vegetable and potato crops, apply in a minimum of 15 GPA by ground and 5 GPA by aerial application. **Tivado** may also be applied through overhead irrigation systems as designated in the **CHEMIGATION** section of this label under **CHEMIGATION APPLICATION INSTRUCTIONS**.

Tivado must be tank-mixed with a spray adjuvant/additive having spreading and penetrating properties to maximize leaf uptake and systemicity of the active ingredient within treated plants; please contact your local Atticus, LLC representative or PCA for specific recommendations by crop. However, the use of Induce® adjuvant in combination with **Tivado** on grape, pome fruits, and stone fruits is prohibited when fruit is present due to adverse plant compatibility on harvested commodities. The tank-mixture of **Tivado** with an adjuvant/additive having sticking properties or crop protection product formulations containing built-in stickers have been shown to interfere with leaf uptake and should be avoided. Sufficient leaf tissue must be present for uptake and translocation of this product; due to this requirement, do not apply prior to petal-fall on pome fruits, stone fruits, and tree nut crops.

It is widely known that tank mixtures and/or sequential treatments of horticultural spray oil with Captan and/or sulfur may cause adverse plant compatibility in tree and vine crops; including **Tivado** in this tank mix and/or sequential treatment scenario is not recommended.

BANANA AND PLANTAIN (HI, PR, FL only)		
Pests Controlled	Product Rate	
Aphids	(fl. oz./A)	(lb. ai/A)
	10.0 - 16.0	0.16 - 0.25
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 1 day • Minimum Interval Between Applications: 14 days • Maximum Tivado Allowed per Crop Season: 80 fl. oz./A • Maximum Spirotetramat per Crop Season: 1.25 lb. ai/A		

BRASSICA (COLE) LEAFY VEGETABLES		
Crops of Crop Group 5 Including: Broccoli, Broccoli raab (rapini), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccolo, Chinese broccoli (gai lon), Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens		
Pests Controlled/Suppressed	Product Rate	
Pests Controlled: Aphids Swede midge Whiteflies	(fl. oz./A)	(lb. ai/A)
Pests Suppressed: Diamondback moth Nematodes Onion thrips (larvae)	3.0 - 5.0	0.05 - 0.08
Application Instructions: Certain nonionic and organosilicone adjuvants, which may potentially be used with Tivado , have caused intolerable damage to bok choy, napa, mustard spinach, mizuna, and mustard greens when applied alone, in the absence of Tivado . Testing has shown that Tivado does not increase the potential for damage when used in combination with such adjuvants. Due to the wide variety and composition of spray adjuvants that may be used in combination with Tivado , only use a spreading-penetrating adjuvant that is known to be safe to the target crop.		
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 1 day • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Crop Season: 10 fl. oz./A • Maximum Spirotetramat Allowed per Crop Season: 0.16 lb. ai/A		

BULB VEGETABLES		
Crops of Crop Subgroup 3-07A Including: Daylily (bulb), Fritillaria (bulb), Garlic (bulbs of common, great-headed, Serpent), Lily (bulb), Onion (bulbs of common, Chinese, Pearl, potato onion), Shallot (bulb), plus cultivars, varieties, and/or hybrids of these.		
Crops of Crop Subgroup 3-07B Including: Chinese Chive (fresh leaves), Chive (fresh leaves), Elegans hosta, Fritillaria (leaves), Kurrat, Leek (<i>Allium porrum</i> , Lady's, Wild), Onion (Beltsville bunching, fresh, green, macrostem, tree tops, Welsh tops), Shallot (fresh leaves), plus cultivars, varieties, and/or hybrids of these.		
Pests Controlled	Product Rate	
Onion thrips (larvae)	(fl. oz./A)	(lb. ai/A)
	5.0	0.08
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): ◦ Members of Subgroup 3-07A: 3 days ◦ Members of Subgroup 3-07B: 7 days • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Crop Season: 10 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.16 lb. ai/A • For Onions, Leeks, and Chives grown for seed production, do not apply 4 months prior to bloom, during bloom or until after petal fall.		

BUSHBERRY SUBGROUP**LOW GROWING BERRY SUBGROUP**

Crops of Crop Subgroups 13-07B and 13-07H Including: Aronia berry, Bearberry, Bilberry, Blueberry (highbush and lowbush), Chilean guava, Cloudberry, Cranberry, Currant (black, buffalo, native, and red), Elderberry, European barberry, Gooseberry, Edible honeysuckle, Jostaberry, Juneberry, Muntries, Lingonberry, Partridgeberry, Salal, Sea buckthorn, and cultivars, varieties, and/or hybrids of these.

Pests Controlled/Suppressed	Product Rate	
Pests Controlled: Aphids Blueberry Gall Midge Cranberry Tipworm Thrips (larvae)	(fl. oz./A)	(lb. ai/A)
	8.0 - 10.0	0.13 - 0.16
Pests Suppressed: Blueberry Maggot Leafhoppers	10.0	0.16
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 7 days • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Calendar Year: 30 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.47 lb. ai/A • Do not apply until after petal fall.		

CARROT

Pests Controlled		Product Rate	
Aphids	(fl. oz./A)	(lb. ai/A)	
Whiteflies	5.0	0.08	
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 1 day • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Crop Season: 10 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.16 lb. ai/A			

CHRISTMAS TREE PLANTATIONS

Pests Controlled	Product Rate	
Aphids (including root aphids and Adelgids)	(fl. oz./A)	(lb. ai/A)
Scales	5.0 - 10.0	0.08 - 0.16
Foliar Application Restrictions:		
• Minimum Interval Between Applications: 14 days		
• Maximum Tivado Allowed per Calendar Year: 20 fl. oz./A		
• Maximum Spirotetramat per Calendar Year: 0.31 lb. ai/A		

CITRUS FRUITS

Crops of Crop Group 10-10 Including: Australian lime (desert, finger, and round), Brown River finger lime, Calamondin, Citron, Grapefruit, Japanese summer grapefruit, Kumquat, Lemon, Lime, Mediterranean mandarin, Mount White lime, New Guinea wild lime, Orange (sour and sweet), Pummelo, Russell River lime, Satsuma mandarin, Sweet lime, Tachibana orange, Tahiti lime, Tangelo, Tangerine, Tangor, Trifoliate orange, Uniq fruit, including cultivars, varieties and/or hybrids of these commodities.

Pests Controlled/Suppressed	Product Rate	
	(fl. oz./A)	(lb. ai/A)
Pests Controlled: Aphids Asian citrus psyllid California red scale Citrus leafminer Citrus bud mite Citrus red mite Citrus rust mite (silver mite) Citrus snow scale Citrus thrips Florida red scale Mealybugs Pink citrus rust mite Purple scale Texas citrus mite Whiteflies	8.0 - 10.0	0.13 - 0.16
Pests Suppressed: Black scale Brown scale Citricola scale Cottony cushion scale Nematodes		

Foliar Application Restrictions:

- **Pre-Harvest Interval (PHI):** 1 day
- **Minimum Interval Between Applications:** 21 days
- **Maximum Tivado Allowed per Calendar Year:** 20 fl. oz./A
- **Maximum Spirotetramat per Calendar Year:** 0.31 lb. ai/A
- Do not apply this product within 10 days prior to bloom, during bloom, or until petal fall is complete.
- For production areas in Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina, and Texas, optimum control of target pests is obtained at application volumes up to 250 gpa; application volumes in excess of 350 gpa must be avoided.
- Do not apply non-ionic surfactants in tank mix combination with **Tivado** on white grapefruit.

COFFEE

Pests Controlled	Product Rate	
	(fl. oz./A)	(lb. ai/A)
Green Scale	8.0 - 10.0	0.13 - 0.16

Foliar Application Restrictions:

- **Pre-Harvest Interval (PHI):** 14 days
- **Minimum Interval Between Applications:** 21 days
- **Maximum Tivado Allowed per Calendar Year:** 30 fl. oz./A
- **Maximum Spirotetramat per Calendar Year:** 0.47 lb. ai/A

FRUITING VEGETABLES

Crops of Crop Group 8-10 Including: African eggplant, Bush tomato, Cocona, Currant tomato, Eggplant, Garden huckleberry, Goji berry, Groundcherry, Martynia, Naranjilla, Okra, Pea eggplant, Pepino, Pepper (bell and nonbell*), Roselle, Scarlet eggplant, Sunberry, Tomatillo, Tomato, Tree tomato, including cultivars, varieties and/or hybrids of these commodities.

*including cayenne, chili pepper, habanero, jalapeno, pablano, pimento, and serrano.

Pests Controlled/Suppressed	Product Rate	
Pests Controlled: Aphids Broad mite Psyllids Tomato russet mite Whiteflies	(fl. oz./A)	(lb. ai/A)
Pests Suppressed: Leafminers Nematodes Twospotted spider mite Western flower thrips (larvae)	3.0 - 5.0 In CA: 4.0 - 5.0	0.05 - 0.08 In CA: 0.06 - 0.08
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 1 day • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Crop Season: 10 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.16 lb. ai/A		

GLOBE ARTICHOKE

Pests Controlled		Product Rate	
Aphids		(fl. oz./A)	(lb. ai/A)
		5.0 - 8.0	0.08 - 0.13
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 3 days • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Crop Season: 32 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.5 lb. ai/A			

HOPS

Pests Controlled		Product Rate	
Hop aphid Twospotted spider mite		(fl. oz./A)	(lb. ai/A)
		5.0 - 6.0	0.08 - 0.09
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 7 days • Minimum Interval Between Applications: 14 days • Maximum Tivado Allowed per Calendar Year: 12.5 fl. oz./A • Maximum Spirotetramat per Calendar Year: 0.2 lb. ai/A			

LEAFY VEGETABLES (Except Brassica Vegetables)

Crops of Crop Group 4 Including: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Cardoon, Celery, Celtuce, Chervil, Chinese celery, Chrysanthemum (edible-leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Florence fennel (Finocchio), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Radicchio (red chicory), Rhubarb, Spinach including New Zealand and vine (Malabar spinach, Indian spinach), Swiss chard, Taro leaves

Pests Controlled/Suppressed	Product Rate	
	(fl. oz./A)	(lb. ai/A)
Pests Controlled: Aphids Whiteflies	3.0 - 5.0	0.05 - 0.08
Pests Suppressed: Diamondback moth Leafminers Nematodes Western flower thrips (larvae)		

Foliar Application Restrictions:

- **Pre-Harvest Interval (PHI):** 3 days
- **Minimum Interval Between Applications:** 7 days
- **Maximum Tivado Allowed per Crop Season:** 10 fl. oz./A
- **Maximum Spirotetramat per Crop Season:** 0.16 lb. ai/A

LEGUME VEGETABLES

Crops of Crop Group 6 (except soybean, dry) Including: Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean
Bean (*Lupinus* spp., including grain lupin, sweet lupin, white lupin, and white sweet lupin)

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

Bean (*Vigna* spp., including 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. including 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/Suppressed	Product Rate	
	(fl. oz./A)	(lb. ai/A)
Pests Controlled: Aphids Whiteflies	3.0 - 5.0 In CA: 4.0 - 5.0	0.05 - 0.08 In CA: 0.06 - 0.08
Pests Suppressed: Leafminers Melon thrips (larvae) Nematodes Twospotted spider mite Western flower thrips (larvae)		

Foliar Application Restrictions:

- **Pre-Harvest Interval (PHI):**
 - **Edible podded and succulent beans and peas:** 1 day
 - **Dry shelled beans and peas:** 7 days
- **Minimum Interval Between Applications:** 7 days
- **Maximum Tivado Allowed per Crop Season:** 10 fl. oz./A
- **Maximum Spirotetramat per Crop Season:** 0.16 lb. ai/A

PINEAPPLE		
Pests Controlled	Product Rate	
Mealybugs	(fl. oz./A)	(lb. ai/A)
	10.0	0.16
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 1 day • Minimum Interval Between Applications: 14 days • Maximum Tivado Allowed per Crop Season: 20 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.31 lb. ai/A		

POME FRUITS		
Crops of Crop Group 11-10 Including: Apple, Asian pear, Azarole, Chinese quince, Crabapple, Japanese quince, Loquat, Mayhaw, Medlar, Pear, Quince, Tejocote, including cultivars, varieties and/or hybrids of these commodities.		
Pests Controlled/Suppressed	Product Rate	
Pests Controlled: Aphids (including Woolly Apple Aphid) Apple rust mite Mealybugs Pear psylla Pear rust mite San Jose scale Whiteflies	(fl. oz./A)	(lb. ai/A)
Pests Suppressed: Apple gall midge Codling moth European red mite Micro-lepidoptera leafminers Pear leaf midge Twospotted spider mite White apple leafhopper	6.0 - 9.0	0.09 - 0.14
Application Instructions: For control of San Jose scale west of the Rocky Mountains including all of MT, WY, CO, and NM: Apply immediately after petal fall, followed by a second application 14 - 21 days later. For control of San Jose scale east of the Rocky Mountains: Apply immediately after petal fall; under heavy infestation pressure or where difficult control conditions exist, a second application may be necessary.		
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 7 days • Minimum Interval Between Applications: 14 days • Maximum Tivado Allowed per Calendar Year: 25 fl. oz./A • Maximum Spirotetramat per Calendar Year: 0.39 lb. ai/A • Do not apply until after petal fall.		

POMEGRANATE		
Pests Controlled	Product Rate	
Aphids	(fl. oz./A)	(lb. ai/A)
Whiteflies	8.0 - 10.0	0.13 - 0.16
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 1 day • Minimum Interval Between Applications: 14 days • Maximum Tivado Allowed per Calendar Year: 20 fl. oz./A • Maximum Spirotetramat per Calendar Year: 0.31 lb. ai/A		

POTATO AND OTHER TUBEROUS AND CORM VEGETABLES		
Crops of Crop Subgroup 1C Including: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible), Cassava (bitter and sweet), Chayote (root), Chufa, Dasheen (taro), Ginger, Leren, Potato, Sweet potato, Tanier, Turmeric, Yam bean, Yam (true)		
Pests Controlled/Suppressed	Product Rate	
Pests Controlled: Aphids Psyllids Whiteflies	(fl. oz./A)	(lb. ai/A)
Pests Suppressed: Nematodes Twospotted spider mite Western flower thrips (larvae) Wireworms	4.0 - 5.0	0.06 - 0.08
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 7 days • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Crop Season: 10 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.16 lb. ai/A		

SMALL FRUIT VINE CLIMBING SUBGROUP (Except Fuzzy Kiwifruit)		
Crops of Crop Subgroup 13-07F Including: Amur river grape, Gooseberry, Grape, Kiwifruit (hardy), Maypop, Schisandra berry		
Pests Controlled/Suppressed	Product Rate	
Pests Controlled:	(fl. oz./A)	(lb. ai/A)
Grape tumid gallmaker Mealybugs Phylloxera Willamette mite Whiteflies	5.0 - 8.0	0.08 - 0.13
Pests Suppressed:		
European fruit lecanium scale Pacific mite Twospotted spider mite Nematodes		
Application Instructions: Some adjuvants that may be used with Tivado have caused intolerable damage to grape berries/clusters when applied alone or in mixes after the initiation of bloom. Testing has shown that Tivado does not increase the potential for damage when used in combination with such adjuvants; however, not all adjuvants have been tested. It is recommended that a high quality spreading penetrating adjuvant be used at a rate that is known to be safe to the crop.		
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 7 days • Minimum Interval Between Applications: 30 days • Maximum Tivado Allowed per Calendar Year: 12.5 fl. oz./A • Maximum Spirotetramat per Calendar Year: 0.2 lb. ai/A		
STONE FRUITS		
Crops of Crop Group 12-12 Including: Apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; cherry, sweet; cherry, tart; Jujube, Chinese; nectarine; peach; plum; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plum, prune; plumcot; sloe; cultivars, varieties, and/or hybrids of these		
Pests Controlled/Suppressed	Product Rate	
Pests Controlled:	(fl. oz./A)	(lb. ai/A)
Aphids Mealybugs San Jose scale White peach scale Whiteflies	6.0 - 9.0	0.09 - 0.14
Pests Suppressed:		
Black scale Cherry fruit fly European fruit lecanium scale European red mite Nematodes Spotted Wing Drosophila Twospotted spider mite		
Application Instructions: For control of San Jose scale: Apply immediately after petal fall; under heavy infestation pressure or where difficult control conditions exist, a second application may be necessary.		
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 7 days • Minimum Interval Between Applications: 14 days • Maximum Tivado Allowed per Calendar Year: 15.3 fl. oz./A • Maximum Spirotetramat per Calendar Year: 0.24 lb. ai/A • Do not apply until after petal fall.		

TROPICAL FRUIT

Acerola, Avocado, Black sapote, Canistel, Feijoa, Jaboticaba, Guava, Longan, Lychee, Mamey sapote, Mango, Papaya, Passionfruit, Persimmon, Pulasan, Rambutan, Sapodilla, Spanish lime, Star apple, Starfruit, Wax jambu, White sapote (*Casimiroa* spp.)

Pests Controlled/Suppressed	Product Rate	
Pests Controlled: Aphids Avocado thrips Mealybugs Scales Whiteflies	(fl. oz./A)	(lb. ai/A)
Pests Suppressed: Avocado brown mite Papaya leaf edgeroller mite Persea mite Twospotted spider mite	8.0 - 10.0	0.13 - 0.16
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 1 days • Minimum Interval Between Applications: 14 days • Maximum Tivado Allowed per Calendar Year: 25 fl. oz./A • Maximum Spirotetramat per Calendar Year: 0.39 lb. ai/A		

WATERCRESS

Pests Controlled		Product Rate	
Aphids	(fl. oz./A)	(lb. ai/A)	
	4.0 - 12.5	0.06 - 0.2	
Foliar Application Restrictions: • Pre-Harvest Interval (PHI): 3 days • Minimum Interval Between Applications: 7 days • Maximum Tivado Allowed per Crop Season: 25 fl. oz./A • Maximum Spirotetramat per Crop Season: 0.39 lb. ai/A • Do not plant or replant any crop not listed on this label within 260 days after the last application.			

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

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

CONTAINER HANDLING:

For containers ≤ 5 gallons: Nonrefillable Container: Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

For containers > 5 gallons: Nonrefillable container: Do not reuse or refill this container. Triple rinse container (or equivalent) 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. Recap 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures allowed by state and local authorities.

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following 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. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label. **LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. 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, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

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