66222-239 01-17-2012

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

EPA Reg. Number:	Date of Issuance:
66222-239	**JAN 17 2012**

NOTICE OF PESTICIDE:
x Registration
__ Reregistration
(under FIFRA, as amended)

Term of Issuance: Unconditional

Name of Pesticide Product:
MANA Diflubenzuron 2L

Name and Address of Registrant (include ZIP Code):
Makhteshim Agan of North America, Inc.
4515 Falls of Neuse Rd., Suite 300
Raleigh, NC 27609

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Revise the EPA Registration Number to read "EPA Reg. No. 66222-239".

2. Submit 1 copy of your final printed label before you release the product for shipment.

Confidential Statement of Formula

The acceptable Confidential Statement of Formula(s) (CSF) for this product are:

1 Basic CSF – dated 09/23/2011

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

If you have any questions, please contact Gene Benbow at (703) 347-0235 or via email at benbow.gene@epa.gov.

Signature of Approving Official:	Date:
John Hebert Product Manager 07 Insecticide-Rodenticide Branch Registration Division (7505P)	JAN 17 2012

EPA Form 8570-6

GROUP	15	INSECTICIDE

Restricted Use Pesticide
Due to toxicity to aquatic invertebrate animals. For retail sale to and use only by Certified Applicators or persons under their direct supervision, and only for those uses covered by the Certified Applicator's Certification.

MANA Diflubenzuron 2L

Insect Growth Regulator
Aqueous Flowable

For use on barley, oats, triticale, wheat, cotton, grassland and non-residential non-crop areas, leafy brassica and turnip greens, livestock/poultry premises, oranges, grapefruit, tangerine, peanuts, pears, peppers, rice, soybeans, stonefruit (excluding cherries), tree nuts, and turfgrass

ACTIVE INGREDIENT:	% BY WT.
Diflubenzuron (N-[[(4-Chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide)*	22%
OTHER INGREDIENTS:	78%
TOTAL:	100%

*Contains 2 lbs. diflubenzuron per gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION

Manufactured for:
Makhteshim Agan of North America, Inc.
4515 Falls of Neuse Road, Suite 300
Raleigh, NC 27609

EPA Reg. No. 66222-xxx **EPA Est. No.** [redacted]

NET CONTENTS:_____ GALLONS

EMERGENCY ASSISTANCE:
Have the product container or label with you when calling a doctor or going for treatment. You may contact Prosar at 1-877-250-9291 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category A on an EPA chemical-resistant selection chart.

Applicators and Other Handlers Must Wear:

- A long-sleeved shirt & long pants
- chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, natural rubber, polyethylene, PVC, or viton, when mixing and loading and also when using hand-held equipment
- shoes plus socks.

Mixers and Loaders Using Fixed-Wing Aircraft Must Wear:

- A long-sleeved shirt and long pants
- chemical-resistant gloves such as barrier laminate, nitrile rubber, neoprene rubber, natural rubber, polyethylene, PVC, or Viton
- shoes plus socks
- dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C or a NIOSH approved respirator with any R, P, or HE filter)

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
When handlers use closed systems (including water soluble bags), 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 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

This pesticide is toxic to terrestrial juvenile insects and aquatic invertebrates/mollusks/insects. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

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

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

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 polyethylene or polyvinyl chloride
- shoes plus socks

INSTRUCTIONS AND INFORMATION

SPRAY DRIFT LABELING

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more 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. Sound erosion control practices will reduce this product's contribution to surface water contamination. Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to ULV applications on grassland and non-crop areas, for the control of grasshoppers and Mormon crickets.

The distance of the outermost nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

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

Controlling Droplet Size
- Volume-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles – Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid steam nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length
For some use patterns, reducing the effective boom length to less than ¾ of the wingspan or rotor length may further reduce drift without reducing swath width.

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

Swath Adjustment
When applications are made with a cross-wind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for the displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc).

Wind
Drift potential is lowest between wind speed of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

Temperature and Humidity
When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are hot and dry.

Temperature Inversions
Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover with 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 or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas
The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

INFORMATION

MANA DIFLUBENZURON 2L is an insect growth regulator which is effective on a wide variety of listed insect pests, predominately from the families Lepidoptera and Diptera. Because of its mode of action, which results in a disruption of the normal molting process of the insect larvae, the action of MANA DIFLUBENZURON 2L is slow and several

days may elapse before the full effect is seen. Because of its specificity, MANA DIFLUBENZURON 2L is an excellent product for use in IPM programs.

RESISTANCE MANAGEMENT: When used as directed MANA DIFLUBENZURON 2L provides control of a number of important insect pests as well as providing a margin of safety to beneficial insects and pollinators. MANA DIFLUBENZURON 2L should be part of an IPM program that follows good management practices that include:

- Scouting regularly and use MANA DIFLUBENZURON 2L against early immature stages for best results
- Always follow the label rate and timing directions
- Use chemical alternatives such as oil and preserve beneficial arthropods as part of an IPM program
- Maintain good coverage of all leaf surfaces with adequate water volume
- Alternate treatments to classes of insecticides with different modes of action

RESTRICTIONS

Do not apply this product to bodies of water where swimming is likely to occur.

For Field Crops, Row Crops, Orchard Uses, Grassland and Non-Crop Areas: Do not apply within 25 feet by ground or 150 feet by air of bodies of water such as lakes, reservoirs, rivers, permanent streams, natural ponds, marshes or estuaries. All applications must include a 25 foot vegetative buffer strip within the buffer zone to decrease runoff.

RESTRICTIONS ON ROTATIONAL CROPS: Do not plant food or feed crops in MANA DIFLUBENZURON 2L treated soils within 1 month following last application, unless MANA DIFLUBENZURON 2L is labeled for use on these crops.

APPLICATION INSTRUCTIONS

USE AND MIXING DIRECTIONS IF USED WITH WATER:

1. Fill tank with half of the required amount of water.
2. Begin agitation and add required amount of MANA DIFLUBENZURON 2L.
3. Continue agitation while adding remainder of water.
4. If permitted for the use site, add proper quantity of oil slowly. To avoid formation of an invert emulsion, use at least 2 parts of water for each part of oil.

USE AND MIXING DIRECTIONS IF USED WITHOUT WATER:

Always evaluate any potential mixture for compatibility and sprayability. To ensure thorough mixing of MANA DIFLUBENZURON 2L with insecticides or other carriers, premix ingredients in a nurse tank prior to being transferred to aerial or ground ULV application equipment. If nurse tank is not available, or unable to simultaneously mix:

1. Fill tank with the required amount of oil and/or oil based insecticide.
2. Begin agitation and add required amount of MANA DIFLUBENZURON 2L.
3. After the contents of the tank have been thoroughly agitated, a volume of carrier sufficient to fill the booms and piping system must be drained and then added back to the tank.

Aerial or ground application: Apply spray with aerial or ground equipment designed or modified to insure full uniform coverage of the entire plant. Adjust equipment to provide droplets with a diameter of 150 to 220 microns. Provide agitation prior to, during, and after blending and while applying.

APPLICATION THROUGH IRRIGATION SYSTEMS – CHEMIGATION

MANA DIFLUBENZURON 2L may be applied through properly equipped chemigation systems for insect control in grassland and row crops. Apply this product only through sprinkler (including center pivot, lateral move, end tow, side (wheel) row, traveler, big gun, solid set, or hand move) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. In order to calibrate the irrigation system and injector to apply the mixture, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Set the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 3) Calculate the total gallons of the mixture needed to cover the desired acreage. Divide the total gallons of mixture needed by the number of minutes to cover the treated area. This value equals the gallons per minute that the injector must deliver. Convert the gallons per minute to ounces per minute. Calibrate the injector pump with the system in operation at the desired irrigation rate. Calibrate the injector pump at least twice before operation, and monitor the system during operation. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

If the chemigation system is connected to a public water supply, the following conditions must also be met:

- Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- Chemigation systems connected to public water systems must contain a functional reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from a 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 flow 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, 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.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
- Upon completion of insecticide application, remove scale, pesticide residues, and other foreign matter from the supply tank and entire injector system. Flush thoroughly with clean water.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

SPRINKLER CHEMIGATION

For continuously moving systems, the mixture containing MANA DIFLUBENZURON 2L must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. If continuously moving irrigation equipment is used, apply in no more than 0.25 inch of water. For sprinkler systems that do not move during operation, apply in no more than 0.25 inch of irrigation immediately before the end of the irrigation cycle.

Maintain continuous agitation of the pesticide supply tank for the duration of the application period.

To apply a pesticide using sprinkler chemigation, the chemigation system must meet the following specification:

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

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Barley Oats Triticale Wheat	**BARLEY, OATS, TRITICALE & WHEAT RESTRICTIONS:** Do not make more than 1 application per season. Do not exceed 4 fl oz per acre. Do not apply after boot stage of growth. For Use in The Following States Only: Alaska, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming, Western North & South Dakota and Western Nebraska (West of Route 281 in ND,SD & NE). **Pre-harvest Interval:** Do no harvest grain and straw within 50 days of application. Do not harvest forage within three days of application. Do not harvest hay within 15 days of application.		
	Grasshopper	1-2	For best results, apply when the majority of infesting grasshoppers have reached the 2nd to 3rd nymphal stage of development. MANA DIFLUBENZURON 2L is not effective in controlling grasshoppers once they reach the adult stage. If a large influx from neighboring fields should occur, the time to reduce that population may not be short enough to minimize extensive foliage feeding; a tank mix with a knockdown insecticide is recommended under these conditions.
	Cereal leaf beetle	4	For best results, apply at first sign of egg laying. Do not apply if infestation has advanced into later instar larvae.
	Aerial Application: Apply in 2 to 5 gallons total volume per acre **Ground Application:** Apply in 5 to 15 gallons of total volume per acre. Use sufficient application volume to assure adequate coverage. Because of the unique mode of action of MANA DIFLUBENZURON 2L, its visible effects on larvae and nymphs may not be seen until 5 to 7 days following application.		
Cotton	**COTTON RESTRICTIONS:** Do not exceed 6 applications per season. Do not exceed 24 fl oz per acre. Do not exceed 3 applications and 12 fl oz post boll opening. **Pre-harvest Interval:** Do not harvest within 14 days of application.		
	Beet armyworm -early season before first bloom	2 – 4	For early infestations on young cotton, apply MANA DIFLUBENZURON 2L at the first sign of beet armyworm activity (2 egg masses or hatch outs/100 feet of row) in multiple applications, either as directed or broadcast spray. Use on a 5 to 7 day interval until 8 fl oz per acre have been applied. Multiple applications of MANA DIFLUBENZURON 2L will provide acceptable beet armyworm control and because it has little activity on beneficial insects (parasites and predators) and has good persistence, will help prevent populations of beet armyworm from building up later in the growing season. Use of MANA DIFLUBENZURON 2L in this way allows for more complete coverage of new foliage during the period of rapid vegetative growth.
	Beet armyworm -mid season	4 - 8	Apply starting around first bloom and through mid-bloom. Repeat application until up to 8 fl oz per acre have been applied, using a 5 to 7 day interval between applications .Use higher application rate on larger cotton and/or under conditions of greater larval pressure. Apply first application should coincide with peak beet armyworm moth catches in pheromone traps, indicating another generation of larvae is imminent. MANA DIFLUBENZURON 2L is more effective on early stages of larval development, therefore treat cotton leaves should be treated before populations become established.
	Beet armyworm -late season	6 – 8	Apply after mid-bloom and prior to 14 days before harvest. Use higher application rate on larger cotton and/or under conditions of greater larval pressure. Coincide application with peak beet armyworm moth catches in pheromone traps. Additional applications may be needed if larval pressure continues.
	Fall armyworm Yellowstriped army-worm Southern army-worm Soybean looper * Cabbage looper * Saltmarsh cater-pillar* *suppression	4 - 8	Apply during early stages of larval development. Repeat application until at least 8 fl oz per acre have been applied using a 5 to 7day interval.
	Boll weevil – early season (before first bloom)	4 – 8	MANA DIFLUBENZURON 2L will control boll weevil by suppressing reproduction. Apply with 2 to 4 qt of emulsified cottonseed oil, vegetable oil, or paraffinic crop oil. For ULV application, use 4 fl oz in a minimum of 8 fl oz of emulsified cottonseed oil, oil based insecticide, or vegetable or petroleum based oil carrier. A compatibility agent may be needed if a non-emulsified cotton-seed oil is used. Consult your supplier or Makhteshim Agan of North America, Inc. representative for oil

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
			specifications. For best suppression of boll weevil reproduction, make first application at pinhead square stage of cotton growth when overwintering boll weevils are entering the fields. Repeat applications must allow a minimum of 7 days between applications. MANA DIFLUBENZURON 2L does not kill the adult boll weevils, however, eggs deposited by affected female weevils will not hatch, thus *limiting reproduction. The control of egg hatch and larval development* within the square prevents its shedding and will then allow normal boll development. After the initial treatment of the female weevil, 7 to 10 days are required before non-hatching eggs are laid; however, once affected, non-hatching eggs will be laid for approximately 10 days, and longer if the female encounters more MANA DIFLUBENZURON 2L. Thus treat early and use multiple applications.
	Boll weevil	2 – 4	MANA DIFLUBENZURON 2L will reduce the number of weevils that emerge in the following spring if applications are made when adult weevils are going to diapuase to overwinter. Apply when cotton plant has reached full vegetative growth or when it begins blooming out the top. For LV application spray in combination with 2 to 4 qt of an emulsifiable vegetable or paraffinic oil per acre. For ULV application combine in a minimum of 8 oz of emulsified cottonseed oil, oil based insecticide, or vegetable or petroleum based oil carrier. A compatibility agent may be needed if a non-emulsified cottonseed oil is used. Apply at least 2, but not more than 3, applications at 7 to 14 day intervals should be made.
	Grasshopper	2	Apply when the majority of infesting grasshoppers have reached the 2nd to 3rd nymphal stage of development. MANA DIFLUBENZURON 2L is not effective in controlling grasshoppers once they reach the adult stage. If a large influx from neighboring fields should occur, the time to reduce that population may not be short enough to minimize extensive foliage feeding; a tank mix with a knockdown insecticide is recommended under these conditions.
	Aerial application: Apply in 3 to 5 gallons total volume per acre. For ULV application, use a total volume of 20 to 48 oz per acre. **Ground application:** Apply in 10 to 20 gallons of total volume per acre. For ULV application, use a total of 20 to 64 oz per acre. **Adjuvant usage:** Always use oil (1 to 2 qt) with MANA DIFLUBENZURON 2L for larval/nymphal control if conditions are favorable for water evaporation (e.g. high air temperature and/or low humidity). For ground or aerial LV application, 1 pt to 2 qt of emulsified vegetable or paraffinic crop oil is recommended to enhance canopy penetration and to reduce spray droplet evaporation and subsequent drift. For ULV application, use MANA DIFLUBENZURON 2L in a minimum of 20 oz of emulsified cottonseed, vegetable or petroleum based oil carrier. A compatibility agent may be needed if non-emulsified cottonseed oil is used. Consult your supplier or Makhteshim Agan of North America, Inc. representative for oil specifications. Use sufficient application volume to assure adequate coverage. MANA DIFLUBENZURON 2L may be mixed with other insecticides being applied for other cotton insects. When emulsifiable concentrate insecticide formulations are used with oil and MANA DIFLUBENZURON 2L in tank mixes, they may results in phytotoxicity. Care must be taken where such mixture is used. Because of the unique mode of action of MANA DIFLUBENZURON 2L, its visible effects on larvae/nymphs may not be seen for 5 to 7 days following application.		
Grassland (includes rangeland, pastures, improved pastures and	**GRASSLAND RESTRICTIONS:** Do not need to exceed a total of 2 fl oz per acre per cutting. Do not exceed a total of 6 fl oz per acre per year. Allow at least 1 day after treatment before cutting grass. Apply only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).		
	Grasshopper	1 – 2	Use 1 application on early instar (majority in the 2nd through 4th instar nymphal stages); use high rate for pastureland.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
similar areas used for production of native, domesticated forage grasses for harvest for livestock primarily for grazing or mechanical harvest)	Mormon cricket	0.75 – 1	Use on rangeland only, in a RAATs (Reduced Area and Agent Treatment) application on early instars. A RATTs application is an IPM strategy that takes advantage of grasshopper movement and conservation biological control to allow MANA DIFLUBENZURON 2L to be applied on rangeland on a reduced treated area and at reduced rates, while sustaining acceptable control. RAATs may provide ranchers with an economic means to reduce competition by these insects on their rangeland, depending on insect age and plant canopy. Using this program MANA DIFLUBENZURON 2L may be applied on as little as 50% of the infested acreage (e.g. skipping a 100 ft swath for every 100 ft treated), up to 100% of infested acreage. The rate range to use per acre and amount of area treated will depend on grasshopper/mormon cricket age, plant canopy and topography. Skip up to 50% of the infested area and use the lower rate under uniform topography with early instar ages and sparse vegetation. If the majority of the population is late instars, vegetation is dense, terrain is considered rough, and conditions are hot during treatment, increase the coverage and rate of MANA DIFLUBENZURON 2L up to a blanket (100%) coverage with 1 fl oz per acre.
		0.5 - 1	If a second application is made, typically apply 2 to 3 weeks after the first application.
	Lepidopteran foliage feeding caterpillars such as: Fall armyworm Striped grass-looper	2	For maximum control use MANA DIFLUBENZURON 2L at first sign of hatch outs and prior to larvae reaching fourth instars (< 1/2 inch). MANA DIFLUBENZURON 2L must be ingested and larvae must molt before populations are reduced.
	Horn fly Face fly	2	Apply MANA DIFLUBENZURON 2L for the control of Horn fly and Face fly emergence from cattle manure patties for two weeks or longer.
	Aerial application: For low/high volume application, apply in 2 to 10 gallons of water per acre. For rangeland ULV application, apply in a minimum of 12 fl ozs. total volume per acre. **Ground application:** For low/high volume application, apply in 2 to 30 gallons of water per acre. For rangeland ULV application, apply in a minimum of 12 fl ozs. total volume per acre. Regardless of application type, total spray volume used must ensure thorough coverage of the target crop. For aerial and ULV spray mixtures include an evaporation/drift retardant product at use rates prescribed in the specific product label, particularly when conditions are favorable for water evaporation (e.g. high air temperature and/or low humidity). When using oil type evaporation/drift retardant products, be sure to maintain a ratio of at least 2 parts water to 1 part oil. For low volume and ULV applications, make sure that the spray mixture in the boom contains the correct concentration of MANA DIFLUBENZURON 2L before application begins, and be sure that good agitation is maintained throughout mixing and application. Higher rates and gallonages are suggested for areas with dense vegetation, when nymphs are beyond the 3rd instar stage, and when climatic conditions are favorable for grasshopper/Mormon cricket survival and increase. Apply anytime after eggs begin to hatch through early instars. MANA DIFLUBENZURON 2L remains active on the foliage and will continue to control larvae and grasshoppers/Mormon crickets that hatch later in the season. MANA DIFLUBENZURON 2L is not effective in controlling larvae and grasshoppers/Mormon crickets once they have reached the adult stage. Since it is an insect growth regulator, effects may not be seen until these insects have molted at least once. If adult grasshoppers/Mormon crickets from early hatching and/or overwintering species are present, tank-mix MANA DIFLUBENZURON 2L with a registered adulticide to control later hatching species. Check mixing compatibility and sprayability prior to transferring to the main spray tank. Besides a fatal incomplete molting, adult grasshoppers/Mormon crickets may exhibit missing posterior legs, hernias, abdominal segments malformed, twisted antennae, hemolymph exudation, and wrinkled wings. Additionally, they may more slower, have limited jumps and unsteady landings, show a reduction in feeding, have atrophy of posterior legs or be unable to fly. Any nymph/adult possessing these symptoms is likely more susceptible to predatory insects, birds, and mammals.		
Leafy brassica group includes: Broccoli raab	**LEAFY BRASSICA RESTRICTIONS:** Do not make more than 4 applications per season. Do not exceed 16 fl oz per acre. Do not use on turnip cultivars or varieties which produce a harvestable root. **Pre-harvest Interval:** Do not harvest within 7 days of application.		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Cabbage Chinese (bok choy) Collards Kale Mizuna Mustard greens Mustard spinach Rape greens Turnip greens	Grasshopper	2 – 4	Apply to grasshoppers in the 2nd to 3rd nymphal stage of development. Reapply in 7 day intervals if nymphal hatchout/crop reinfestation continues. MANA DIFLUBENZURON 2L is not effective in controlling grasshoppers once they reach the adult stage. Use the higher rate in the range if the area has a history of heavy infestations, dense foliage is present, or greater residual control is desired. If a large influx from neighboring fields should occur, the time to reduce that population may not be short enough to minimize extensive foliage feeding; a tank mix with a knockdown insecticide is recommended under these conditions.
	Ground Application: Use a minimum of 30 gallons of water per acre to give uniform coverage. Additional applications allow for more complete coverage of newly expanding foliage. Since MANA DIFLUBENZURON 2L is an insect growth regulator, larvae and nymphs must ingest treated plant material and then molt before populations are reduced. Thus initial signs of control may not be seen until 5 to 7 days after treatment.		
Livestock/ Poultry Premises includes- -Litter -Stale/waste feed - Manure -Manure/straw mixtures -Feed muck/spoilage -Spoiled organic refuse - Bedding material - Floors - Walls/wall footings - Posts - Cage frames - Ceilings	**RESTRICTIONS:** Do not apply directly to livestock or poultry. Do not contaminate feed or water through application-cover or remove exposed feed and water from the area to be treated.		
	Carrion Beetle Darkling Beetle Hide Beetle	12 fl.ozs / 1000 ft^2 In 2 – 20 gals. water per 1000 ft^2	**Broadcast Application:** Apply as a whole house broadcast spray to the litter following de-caking, as well as to floors, walls, posts, cage frames, and crack and crevices around insulation. When treating the litter, pay particular attention to areas under feed and water lines. Apply in sufficient volume to uniformly and thoroughly wet the litter and other surfaces-spray volume will vary depending on the depth of litter being treated.
			Band Application: When the whole house is not being treated, application can be made to areas where pests are concentrated, such as under feed and water lines, as well as along perimeter walls and side / end walks. Apply in sufficient volume to thoroughly wet litter following de-caking in a 2-4 foot wide band under and next to these areas. Spray volume will vary depending on depth of litter. Lower sections of walls, posts and cage frames should also be treated at least 1 foot up from the floor.
	House fly Stable fly Face fly Horn fly	12 fl.ozs / 1000 ft^2 In 2 – 20 gals. water per 1000 ft^2	**Broadcast Application:** Apply as a whole house broadcast spray or spot treatment to the litter following de-caking, as well as to floors, walls, posts, cage frames and ceilings. When treating the litter, pay particular attention to moist areas under feed and water lines. Apply in sufficient volume to uniformly and thoroughly wet the litter and other surfaces-spray volume will vary depending on the depth of litter being treated.
		5 fl.ozs in 10 gals. water	**Spot Treatment:** Apply as a directed spray at a volume of 1 quart of spray solution to 10 sq. ft. of surface area. 100 gallons of spray solution will treat 4000 sq. ft. Begin applications when flies first appear. Reapply as needed when adult fly numbers begin to increase, typically at 2 – 3 week intervals.
	Livestock / poultry operations include farms, farm buildings, barns, feedlots, dairies, equine facilities, poultry houses, and other production facilities. Application sites within these operations also include fence lines of holding pens, feed troughs, feed bunks, hay bale feeders, water troughs; and marginal areas of waste retention ponds. For insect control around hay feeding sites, treat the entire area where manure and waste hay are mixed at the soil surface by livestock activity. MANA DIFLUBENZURON 2L will not control adult or pupal stages, but does provide extended control of eggs and developing larvae. Exposure to adults, however, through contact or ingestion, does impact their reproductive potential, resulting in reduced numbers and viability of eggs. If a large adult population already exists at the time treatment is to be made, application with a knockdown insecticide either alone or in a tank mix with MANA DIFLUBENZURON 2L may be desirable to achieve rapid reduction of that population.		
Non-crop areas (includes field border, fence rows, roadsides, farmsteads, ditchbanks, wasteland, Conservation Reserve Program CRP Land)	**NON-CROP AREA RESTRICTIONS:** See **Grassland** section for restrictions.		
	Grasshopper Mormon cricket	2	Apply MANA DIFLUBENZURON 2L to manage these insects in their breeding areas before they move into cropland. See Grassland section for timing of application.
	Lepidopteran Foliage feeding caterpillars such as: Fall armyworms Striped grass looper	2	For maximum control use MANA DIFLUBENZURON 2L at first sign of hatch outs and prior to larvae reaching fourth instars (<1/2 inch). MANA DIFLUBENZURON 2L must be ingested and larvae must molt before populations are reduced.
	See Aerial Application section of **Grassland**. **Ground application:** See **Ground Application** section of **Grassland**.		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Turfgrass (For use in sod farms only)	**TURFGRASS RESTRICTIONS:** Do not exceed a total of 4 applications per year.		
	Lepidopteran Foliage feeding caterpillars such as: Sod webworm Armyworms Including Fall, True, Southern, Beet, Yellow-striped, Striped Grass Looper, Granulate cutworm	2	Apply MANA DIFLUBENZURON 2L at first sign of hatchouts and prior to larvae reaching 4th instars (>1/2 inch). Apply in 20 to 50 gallons of water per acre depending on density of turf and caterpillar pressure. MANA DIFLUBENZURON 2L must be ingested and larvae must molt before populations are reduced. Repeat applications at 14 day intervals or as needed to protect new foliage growth.
Peanuts	**PEANUT RESTRICTIONS:** Do not make more than 3 applications per season. Do not exceed 24 fl oz per acre. **Pre-harvest Interval:** Do not harvest within 28 days of application.		
	Velvet bean caterpillar Mexican bean beetle Green cloverworm	2 – 4	Make applications when larvae are small (<0.5 inches) to give greater control and minimum insect damage to leaves. Repeat applications if damaging numbers reappear. The minimum reapplication interval is 14 days. Use the higher rate in the range if the crop has a history of heavy infestations, dense foliage is present, or greater residual control is desired.
	Armyworms such as: Beet armyworm Fall armyworm Southern armyworm Yellow-striped armyworm Lesser cornstalk borer Soybean looper (suppression)	4 – 8	
	Grasshopper	2	For best results, apply when the majority of infesting grasshoppers have reached the 2nd and 3rd nymphal stage of development. MANA DIFLUBENZURON 2L is not effective in controlling grasshoppers once they reach the adult stage. If a large influx from neighboring fields should occur, the time to reduce that population may not be short enough to minimize extensive foliage feeding. A tank mix with a knockdown insecticide is recommended under these conditions.
	Aerial Application: Apply in sufficient water (3 to 5 gallons per acre) to achieve uniform coverage of foliage. **Ground Application:** Apply in 9 to 35 gallons of water per acre to give uniform coverage. **Adjuvant Usage:** See **Cotton** sections. Since MANA DIFLUBENZURON 2L is an insect growth regulator, larvae/nymphs must ingest treated plant material and then molt before populations are reduced. Thus initial signs of control may not be seen until 5 to 7 days after treatment.		
Oranges Grapefruit Tangerine Pummelo and their hybrids	**CITRUS RESTRICTIONS:** Do not apply more than 60 fl oz of MANA DIFLUBENZURON 2L per acre per year. Do not apply within 21 days of harvest. Do not harvest cover crops for animal feed or graze livestock in treated groves. In the State of Florida, do not apply within 100 feet of estuarine/marine bodies of water by ground application or 1000 feet by air application. Spray last three rows windward of surface water using nozzles on one side only, with spray directed away from surface water. Prevent spray going over tops of trees by adjusting or turning off top nozzles. Shut off nozzles on the side away from the grove when spraying the outside row. Shut off nozzles when turning at ends of rows and passing tree gaps in rows.		
	Citrus Leafminer (*phyllocnistis citrella*)	20	Apply when oviposition beings on new growth flush. Use sufficient spray volume for thorough coverage of leaf surfaces (ground = 50 to 1,000 gallons per acre; aerial = 5 to 20 gallons per acre). Repeat application no closer than 90 days apart for subsequent leaf flushes. The addition of a spray oil, such as FC435-66, enhances coverage and may enhance control of citrus leafminers. MANA DIFLUBENZURON 2L will not kill adult stages of leafminers. MANA DIFLUBENZURON 2L has activity of eggs, larval and pupal stages.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
	Citrus Peelminer (*marmara spp.*)	20	Apply when oviposition begins on peel surface. Use sufficient spray volume for thorough coverage of leaf surfaces (ground = 50 to 1,000 gallons per acre; aerial = 5 to 20 gallons per acre). The addition of a spray oil, such as FC435-66, enhances coverage and may enhance control of peelminers. DILIMIN 2L prevents development of peelminer eggs laid on protected fruit tissues. Protection may last only a few weeks when new tissue is exposed on rapidly expanding fruit.
	Citrus Root Weevil Complex West Indian Sugarcane root-stock borer weevil (*Diaprepes abbreviatus*) Southern bluegreen citrus root weevil (*Pachnaeus litus*) Fuller rose beetle (*Asynonychus godmani*) Little leaf notcher (*Artipus fl oridanus*)	20	Apply MANA DIFLUBENZURON 2L to newly expanded flush on citrus and/or when adult weevils are present. Use sufficient spray volume for thorough coverage of leaf surfaces (ground = 50 to 1,000 gallons per acre; aerial = 5 to 20 gallons per acre). Repeat application no closer than 90 days apart for subsequent leaf flushes and/or when adult weevils are present. The addition of a spray oil, such as FC435-66, enhances coverage and penetration of MANA DIFLUBENZURON 2L into the adult weevils and eggs. Also oil will deter attachment of weevil egg masses to leaf surfaces. MANA DIFLUBENZURON 2L will not kill adult weevils. The activity of MANA DIFLUBENZURON 2L is through ingestion or contact and will result in reduction of the reproductive potential of weevils, it prevents eggs from hatching, thus preventing larvae from entering soil and feeding on citrus tree roots. Also, the grubs from eggs laid on treated leaves are reduced in number.
	Citrus rust mite	20	Use in sufficient water to ensure thorough coverage (50 to 1,000 gallons per acre by ground application; aerial = 5 to 20 gallons per acre). Repeat application no closer than 90 days apart to maintain full season rust mite control. MANA DIFLUBENZURON 2L has activity on eggs and nymphal stages of citrus rust mites. Adults that have passed all molting stages are not susceptible to MANA DIFLUBENZURON 2L. Due to the unique mode of action of MANA DIFLUBENZURON 2L the full effect of the treatment may not be apparent until 3 to 10 days after application.
Pear	**PEAR RESTRICTION:** Do not apply more than 4 applications per year. Do not apply more than 64 fl oz per acre per year. **Pre-harvest Interval:** Do not harvest within 14 days of application. Do not use oil in tank mix in late season treatments (3rd and 4th applications).		
	Pear psylla (pre-bloom)	40 – 48	Apply in 80 to 400 gallons of water per acre during the delayed dormant to the popcorn stage period. Complete uniform coverage of the tree is essential to achieve insect control. A horticultural mineral oil should be used at a rate of 4 to 6 gallons per acre during the delayed dormant period. After this period and through the popcorn stage, apply oil at a concentration of 0.25%, but use no more than 1 gallon per acre. A surfactant may be used to improve coverage. Follow manufacturer's label specifications. MANA DIFLUBENZURON 2L should be applied during egg deposition so that it will come in contact with pear psylla eggs and/or 1st and 2nd instar nymphs.
	Pear psylla (post-bloom)	12 – 16	Applications at normal coding moth rates and timings will provide suppression of pear psylla.
	Pear rust mite (pre-bloom)	40 - 48	Apply in 80 to 400 gallons of water per acre from delayed dormant to the popcorn stage. See **Pear psylla (pre-bloom)** for the use of oil.
	Codling moth	12 – 16	Apply in a minimum of 80 gallons of water per acre. Use the lower rate where there is light codling moth pressure and/or on small trees. Complete coverage of the fruit and foliage in all areas of the trees is essential for insect control. Timing of application is extremely important because MANA DIFLUBENZURON 2L controls codling moth by prohibiting the hatching of eggs. It must be applied prior to egg laying so that eggs are laid on treated plant parts. Apply first application as soon as possible after first moths are caught (biofix) or observed, or about 50-75 degree-days after biofix. This timing can be determined by your local pest control consultant and/or fruit

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
			specialist with the aid of pheromone traps. Normally this timing occurs at late petal fall or about 10-14 days earlier than the timing used for organophosphate insecticides. Apply second application about 14-18 days after the first. If necessary, apply third and fourth application, timed prior to egg laying of the 2nd generation by using the same method as for the 1st generation. If traps are not used, make the 3rd application 21-30 days after the second, followed by the 4th application 21-30 days later. If a degree-day model is used the 3rd spray should be timed at 1000 degree-days after biofix. Combination with organophosphates for codling moth control: MANA DIFLUBENZURON 2L can be used in combination with an organophosphate insecticide, to save a trip through the orchard and to make timing of the MANA DIFLUBENZURON 2L sprays easier. The combination is more effective than MANA DIFLUBENZURON alone when controlling moderate to heavy codling moth infestations and/or treating large trees. The combination will provide residual control of eggs laid after application. Apply MANA DIFLUBENZURON 2L and the organophosphates at their labeled rates. Apply at the beginning of egg hatch of 1st generation codling moth. This is the normal timing for the first organophosphate cover spray (250 degree-days following biofix for 1st generation and 1250 degree-days for the 2nd generation). This program can be repeated for the 2nd and 3rd generation of codling moth or use MANA DIFLUBENZURON 2L alone prior to egg laying. Do not use oil in tank mix with MANA DIFLUBENZURON 2L in late season treatments. With light codling moth populations, as indicated by monitoring, this combination may offer control of an entire generation with 1 application. When populations are heavy, this combination will improve control, but it may not control and entire generation with one spray. A second spray of MANA DIFLUBENZURON 2L alone or in combination maybe applied 14-18 days later.
	Leafminer	8 – 16	Apply in a minimum of 80 gallons of water just prior or during egg laying to control eggs and larvae. Timing for control of the 1st or 2nd generation can be determined by your local pest control consultant or fruit specialist. Should later generations of leafminers occur, apply MANA DIFLUBENZURON 2L in the same manner. It is desirable to have MANA DIFLUBENZURON 2L in place at the time of egg laying. It will continue to give control through the early sap feeding stage. Complete coverage of the foliage is essential to achieve control of the larvae through the early sap feeding stage.
	Oil may cause injury to certain pear varieties. Check compatibility of oil mixtures with your local tree fruit specialist.		
Pepper Bell and Non Bell	**PEPPER RESTRICTIONS:** Up to five applications per growing season may be made as long as 24 fl oz per acre, per season are not exceeded. Allow a minimum of seven days between any two applications. Do not apply within seven days of harvest. Do not apply more than 24 fl oz per acre per season.		
	Beet armyworm Fall armyworm Southern armyworm and other foliage feeding Lepidopteran insects	4 – 8	Make initial application of 4 to 8 fl oz of MANA DIFLUBENZURON 2L per acre when larvae are small to give greater control and minimum damage to leaves and/or fruit. Use a higher rate if being applied alone and/or infestation is considered heavy. A knockdown tank-mix partner should be used if late instar larvae are present. Use a minimum of 30 gallons of water per acre to give uniform coverage. Additional applications allow for more complete coverage of new foliage and expanding fruit.
	Pepper weevil	4 – 8	Apply MANA DIFLUBENZURON 2L at 4 to 8 fl oz per acre starting at initial flowering. Use at the higher rate if adult infestation is considered moderate to heavy. Apply additional applications at 7 day intervals up to 7 days before harvest. Additional applications allow for more complete coverage of new foliage and expanding fruit. Note that MANA DIFLUBENZURON 2L will not control adults; however eggs laid by adults will exhibit reduced hatching in fruits once adults have consumed or contacted residues of MANA DIFLUBENZURON 2L on pepper tissue.
	Aerial application: Apply in sufficient water (3 to 10 gallons per acre) to achieve uniform coverage of foliage. **Ground application:** Use a minimum of 30 gallons of water per acre to give uniform coverage. **Adjuvant usage**: See Cotton Section. Since MANA DIFLUBENZURON 2L is an insect growth regulator, larvae and nymphs must ingest treated plant material and then molt before populations are reduced. Thus initial signs of control may not be seen until 5 to 7		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
	days after treatment.		
Rice	**RICE RESTRICTIONS: Pre-harvest Interval:** Do not harvest within 80 days of application. Do not use on rice fields in which crayfish (crawfish) farming is included in the cultural practice. Do no drain treated water into fields where crayfish farming is intended. Do not apply to rice immediately adjacent to sites of crayfish aquaculture. Do not use treated rice flood waters for irrigated crops except for uses currently established for MANA DIFLUBENZURON 2L. Do not impregnate on granular materials. Do not use on wild rice (*Zizania spp.*).		
	Rice water weevil (Southern U.S. Rice Belt) -for drill seeded; dry seeded; or water seeded, delayed flood rice	12 – 16	Make a single application of MANA DIFLUBENZURON 2L per acre per year to control larvae when adult infestations reach economic threshold and/or at initial oviposition, usually within a time frame of 2-5 days after permanent flood establishment. If adult weevil infestations are historically high and/or migration into the field is prolonged, use the higher application rate.
	Rice water weevil (Southern U.S. Rice Belt) water seeded, pinpiont flood, or continuous flood rice	8 + 8	To control larvae, apply split applications. Apply 8 fl oz per acre after the permanent flood when adult infestations reach economic threshold and/or at initial oviposition, usually when rice leaves are exposed above the water surface. The 2nd 8 fl oz treatment must be made 5-7 days after the 1st application. Failure to make the second application within the above timeframe could result in inadequate control of rice water weevil larvae, especially if adult infestations are high and/or migration into the field is prolonged.
	Rice water weevil (California)	8 – 16	To control larvae, apply MANA DIFLUBENZURON 2L once per year at initiation of oviposition by adults. During a typical year this coincides with 2 to 8 days after rice emergence above the water. Target the application for 2 to 5 days after rice emergence above the water (2 to 4 leaf stage). Use 12 to 16 fl oz of MANA DIFLUBENZURON 2L if infestations have been historically high.
	Consult your local extension service for determination of economic threshold and/or determination of oviposition. MANA DIFLUBENZURON 2L does not appear to control adult weevils. It controls rice water weevil by preventing larval emergence from the egg. Eggs laid under the surface of treated water are controlled. Additionally, adults feeding on treated plant surfaces do not lay viable eggs. Apply MANA DIFLUBENZURON 2L by air using at least 5 gallons total volume per acre. Do not apply MANA DIFLUBENZURON 2L if flooding is in progress. Activity will be reduced. Since MANA DIFLUBENZURON 2L is water active, the entire field must be treated. For maximum activity of MANA DIFLUBENZURON 2L do not disturb flood after a single application for at least 7 days. With split applications in water seeded, pinpoint or continuous flood rice, flood must not be disturbed for a minimum of 4 days following the 1st treatment and 7 days following the 2nd application. Hold treated water at least 14 days to allow dissipation of MANA DIFLUBENZURON 2L. MANA DIFLUBENZURON 2L is not phytotoxic to rice. MANA DIFLUBENZURON 2L can be safely applied in combination with post permanent flood herbicides such as FACET®, GRANDSTAND®, and LONDAX®. However, before using a tank-mix combination, read each product label carefully and follow Precautionary Statements on each label. ®Facet is registered trademark of BASF AG, ®Grandstand is registered trademark of Dow AgroSciences, ®Londax is registered trademark of E.I. DuPont de Nemours and Company.		
Soybean (Except California)	**SOYBEAN RESTRICTIONS:** Use on soybeans not registered by the California Department of Pesticide Regulation. Do not make more than 2 applications per season. **Pre-harvest Interval:** Do not harvest within 21 days of application.		
	Velvet bean caterpillar Mexican bean beetle Green clover-worm	2 - 4	Make applications when larvae are small (<0.5 inches) to give greater control and minimum insect damage to leaves. Repeat application if damaging numbers reappear. The minimum reapplication interval is 30 days. MANA DIFLUBENZURON 2L may be applied at the lower rate (2 fl oz) to prevent velvetbean caterpillar build-up when the vegetative growth of soybeans is completed and as pod formation begins. Consult local Extension Service regarding infestation levels requiring treatment.
	Beet armyworm Fall armyworm Soybean looper (suppression)	4	Application must be made when worms are small before populations build.
	Grasshopper	2	Apply when the majority of infesting grasshoppers have reached the 2nd to 3rd nymphal stage of development. MANA DIFLUBENZURON 2L is not effective in controlling grasshoppers once they reach the adult stage. If a large influx from neighboring fields should occur, the time to reduce that population may not be short enough to minimize extensive foliage feeding; a tank mix with a knockdown insecticide is recommended under these conditions.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
	Aerial application: Apply in sufficient water (3 to 5 gallons per acre) to achieve uniform coverage of foliage. **Ground application:** Apply in 9 to 35 gallons of water per acre to give uniform coverage. **Adjuvant usage:** See Cotton Section. Since MANA DIFLUBENZURON 2L is an insect growth regulator, larvae/nymphs must feed on it and then molt before populations are reduced. Thus initial signs of control may not be seen until several days after treatment. **Soybean yield enhancement:** In the absence of significant insect pressure and under certain growing conditions, an increase in soybean seed yield has been demonstrated with MANA DIFLUBENZURON 2L under field conditions on both determinate and indeterminate cultivars. Application of 2 to 4 fl oz per acre to high yield potential soybeans plants at the R3 to R3.5 growth stage period has been more consistent in increasing yields than applications at other reproductive stages of the soybean plant. This reproductive period represents beginning pod growth (pod 3/16 inch long at one of the uppermost nodes on the main stem with a fully developed leaf) to just prior to full pod elongation (pod ¾ inch long at one of the 4 uppermost nodes on the main stem with a fully developed leaf).		
Stonefruit (excluding cherries) Includes: apricot Nectarine peach plum prune	**STONEFRUIT RESTRICTIONS:** Do not apply after petal fall. Do not exceed 2 applications in any given season. Do not exceed 0.50 lb ai (32 fl oz) per acre in any given season. Allow at least 21 days between applications.		
	Peach twig borer	12 – 16	**Dormant/delayed dormant:** Apply MANA DIFLUBENZURON 2L with 4 to 6 gallons per acre (1.5 to 2.0 gallons per 100 gallons in a dilute spray) narrow range oil. Always use the higher rate if the crop has a history of heavy infestations. **Bloom:** Apply starting at early bloom. Vegetable oil may be used at the rate of 1 qt per acre. Always use the higher rate in the range if the crop has a history of heavy infestations.
	Fall webworm Filbert leafroller Oblique banded leafroller Omniverous leafroller Omniverous leaftier Oriental fruit moth Redhumped caterpillar Variegated leafroller Walnut caterpillar Winter moth	8 – 16	Apply MANA DIFLUBENZURON 2L at the first sign of larval infestation. Use the higher rate for longer residual control, higher pest infestations, low crop load, larger trees or heavy, dense foliage.
	Ground applications must be made in sufficient water for thorough coverage, using at least 50 gallons per acre for small trees (10 feet tall) and at least 100 gallons per acre for larger trees. Using insufficient water for thorough coverage and/or using an uneven spray pattern across the canopy will likely result in less than desired efficacy.		
Tree nut groups includes: almond beech nut Brazil nut butternut chestnut chinquapin filbert (hazelnut) hickory nut macadamia nut (bush nut) pecan pistachio walnut (black & English)	**TREE NUT RESTRICTIONS: Pre-harvest Interval:** Do not harvest within 28 days of application. Do not exceed 4 (3 for walnuts) applications. Do not exceed 64 fl oz per acre per growing season.		
	Codling moth	16	MANA DIFLUBENZURON 2L is most effective when applied prior to egg laying. MANA DIFLUBENZURON 2L must be present on the surface upon which eggs are laid; therefore, full coverage spray is necessary. Apply first application when moth flights begin or when moths are found in pheromone traps. Apply the 2nd application, approximately 21 days after the 1st application. For control of the 2nd brood, application should be timed prior to egg laying, similar to 1st brood. Because of fluctuations in temperature, the emergence and moth flights of the over-wintering population may be extended over a long period of time. Under such circumstances, MANA DIFLUBENZURON 2L should be tank mixed with an organophosphate insecticide at its lowest label rate. This tank mix should be applied at normal 1st organophosphate timing. Later in the season, if egg laying has already occurred before application of MANA DIFLUBENZURON 2L, it is recommended that MANA DIFLUBENZURON 2L be tank mixed with an organophosphate as previously described.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
	Filbert worm	12 – 16	The lower rate may be used where filbert worm pressure is low and/or the trees are small. The higher rate is necessary when worm pressure is moderate to high and/or the trees are large. Apply MANA DIFLUBENZURON 2L 2 to 3 days after the 1st moth is caught in pheromone detection traps. Mating takes place within several days of emergence and egg laying begins the next day. MANA DIFLUBENZURON 2L must be applied prior to egg deposition on the treated foliage. Good uniform coverage of the tree is essential to achieve optimum control of filbert worm with MANA DIFLUBENZURON 2L. Normally MANA DIFLUBENZURON 2L will give season long control. If moth pressure remains high, additional applications should be made.
	Hickory shuckworm	8 – 16	Apply split applications of MANA DIFLUBENZURON 2L at 4 to 8 fl oz per acre when hickory shuckworm moth emergence beings or larval feeding is detected and then again two weeks later for maximum nut protection and hickory shuckworm control. *Apply MANA DIFLUBENZURON 2L starting at half-shell hardening. Make* subsequent applications at 21-day intervals to shuck split, or while nuts are susceptible to hickory shuckworm under heavy infestations. Use the higher rate under higher pest infestations, low crop load, larger trees or heavy, dense foliage.
	Peach twig borer	12 – 16	**Dormant/delayed dormant:** Apply MANA DIFLUBENZURON 2L at the rate of 12 to 16 fl oz per acre with 4 to 8 gallons per acre (1.5 to 2.0 gallons per 100 gallons in a dilute spray) narrow range oil. Always use the higher rate of MANA DIFLUBENZURON 2L in the rate range if the crop has a history of heavy infestations. **Bloom:** Apply MANA DIFLUBENZURON 2L at the rate of 12 to 16 fl oz per acre starting at early bloom. Always use the higher rate of MANA DIFLUBENZURON 2L in the rate range if the crop has a history of heavy infestations. **Spring flight ("May Spray"):** Using pheromone traps to determine flight activity, apply MANA DIFLUBENZURON 2L at the rate of 16 fl oz per acre at initial flight activity. **Summer flight:** Using pheromone traps to determine flight activity, apply MANA DIFLUBENZURON 2L at the rate of 16 fl oz per acre at initial flight activity.
	Pecan nut case-bearer	8 – 16	Apply split applications of MANA DIFLUBENZURON 2L at 4-8 fl oz per acre beginning at bud break and then again two weeks later for maximum nut set and pecan nut case bearer control. Normal timing in southeastern US would be from mid-April for bud break and then two weeks later (early May). Apply MANA DIFLUBENZURON 2L in split applications at the initiation of each adult generation to target egg hatch. Note for the 1st generation this is approximately 8 to 15 days following the first prolonged moth catch (biofix which is defined as the date on which the total of 5 moths are captured in 3 pheromone traps within a 7-day period). States may have a different recommendation for initiation of spraying; please consult authorities such as county and university extension specialists on current recommendations. Use the higher rate for longer residual control, higher pest infestations, low crop load, larger trees or heavy, dense foliage.
	Pecan weevil (suppression)	8 – 16	Use the higher rate if weevils are attacking fruit and for higher infestations.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
	Others, including: Fall webworm Filbert leafroller Oblique banded leafroller Omniverous leafroller Omniverous leaftier Oriental fruit moth Redhumped caterpillar Variegated leafroller Walnut caterpillar Winter moth	8 – 16	Apply MANA DIFLUBENZURON 2L at the first sign of larval infestations. Use the higher rate for longer residual control, higher pest infestations, low crop load, larger trees or heavy, dense foliage.
	Apply ground applications in sufficient water for thorough coverage, using at least 50 gallons per acre for small trees (10 feet tall) and at least 100 to 300 gallons per acre for larger trees. Using insufficient water for thorough coverage and/or using an uneven spray pattern across the canopy will likely result in less than desired efficiency. If 4 applications are used, application timing should correspond to dormant to pre-bud swell, at bloom to petal fall, at flowers/leaves/immature nut fruit formation and hull split.		

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: *Store in original container only.*

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

Plastic containers: Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse (or equivalent) promptly after emptying.

Triple rinse as follows: For containers small enough to shake: Empty the remaining contents into a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and then recap. Shake for 10 seconds. Pour rinsate into 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. For containers too large to shake: Empty remaining contents into 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. Empty the rinsate into a mix tank or store for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into a mix tank and continue to drain for 10 seconds after the flow continues to drip. Hold container upside down over mix tank to collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Recycling: Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer or contact the Ag Container Recycling Council (ACRC) at 1-877-952-2272 (tollfree) or www.acrecycle.org.

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. 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, Makhteshim Agan of North America,

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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.