



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

April 30, 2021

Christine Villegas
Regulatory Manager
MacDermid Agricultural Solutions
c/o UPL NA Inc
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406

Subject: Registration Review Label Mitigation for Diflubenzuron
Product Name: DIMILIN 4L NON-CROP
EPA Registration Number: 400-474
Application Dates: March 29, 2020
Decision Numbers: 561387

Dear Ms. Villegas:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Diflubenzuron Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact DeMariah Koger by phone at 703-347-0425, or via email at koger.demariah@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to be "Linda Arrington", with a stylized flourish at the end.

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

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.

DIFLUBENZURON GROUP 15 INSECTICIDE

Dimilin® 4L Non-Crop

INSECT GROWTH REGULATOR FOR USE ON GRASSLANDS, LIVESTOCK/POULTRY PREMISES, NON-CROP AREAS, AND TREES AND SHRUBS

COMPOSITION

Active Ingredient:	(% by weight)
Diflubenzuron N-[[[(4-Chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide*.....	40.4%
Other Ingredients:	59.6%
TOTAL:	100.0%

*Contains 4 lbs. diflubenzuron per gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

IF ON SKIN OR CLOTHING

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.
- Call a poison control center or doctor for treatment advice.

IF INHALED

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

EMERGENCY ASSISTANCE: Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

24 HOUR EMERGENCY PHONE: 1-866-928-0789 or 1-215-207-0061

FOR PRODUCT USE INFORMATION: CALL 1-866-761-9397

EPA REG. NO. 400-474
EPA EST. NO.

Manufactured for:
MacDermid Agricultural Solutions, Inc.
C/O UPL NA Inc.
630 Freedom Business Center, Suite 402
King of Prussia PA, 19405

ACCEPTED

Apr 30, 2021

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 400-474

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if absorbed through skin or inhaled. Avoid contact with eyes, skin or clothing. Avoid breathing spray mist.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and Other Handlers Must Wear: Long-sleeved shirt and long pants; shoes plus socks; chemical-resistant gloves made of any waterproof material (nitrile rubber ≥ 14 mils, butyl rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, viton ≥ 14 mils, and/or barrier laminate) when mixing and loading and **also using handheld equipment.**

USER SAFETY REQUIREMENTS

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.

ENGINEERING CONTROLS

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 REQUIREMENTS

Users should **wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.**

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should 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 aquatic invertebrates. For terrestrial uses, 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 or runoff from treated areas may be hazardous to aquatic invertebrate organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

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 or 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.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a foliar application.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in reducing immature bee viability.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application except as provided in the Quarantine Programs section of this label.

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.
- shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow others to enter the treated area until sprays have dried.

STORAGE AND DISPOSAL

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

STORAGE: Store in a dry location.

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

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container.

For containers equal to or less than 5 gallons in size: 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 $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

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

For containers greater than 5 gallons or 50 pounds: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

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

Then offer container 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

INSTRUCTIONS AND INFORMATION

MANDATORY SPRAY DRIFT MANAGEMENT¹

Aerial Applications:

- Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to use a fine or coarser droplet size (ASABE S572.1).
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Do not apply during temperature inversions.

Airblast Applications:

- Spray must be directed into the canopy.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outwind pointing nozzles at row ends and when spraying outer rows.
- Do not apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 3 ft above the ground or crop canopy.
- Applicators are required to use a fine or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

¹ These requirements do not apply for applications to control gypsy moths, and rangeland grasshoppers and Mormon crickets as part of the USDA Gypsy Moth Program and Rangeland Grasshoppers and Mormon Cricket Suppression Program.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size—Ground Boom

- Volume—Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure—Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle—Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size—Aircraft

- Adjust Nozzles—Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT—Ground Boom

For ground equipment, the booms should remain level with the crop and have minimal bounce.

RELEASE HEIGHT—Aircraft

Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and a common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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 upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Handheld Technology Applications:

- Take precautions to minimize spray drift.

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).

RESTRICTIONS

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

Do not use in potable water or water used for swimming.

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.

Applications to grasslands and non-crop areas must include a 25 foot vegetative buffer strip within the buffer zone to decrease runoff.

Do not plant food or feed crops in DIMILIN treated soils within 1 month following the last application, unless DIMILIN is authorized for use on these crops.

INFORMATION

DIMILIN 4L is an insect growth regulator which is effective on a wide variety of 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 DIMILIN 4L is slow and several days may elapse before the full effect is seen.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, DIMILIN 4L contains a Group 15 insecticide/acaricide. Any insect/mite population may contain individuals naturally resistant to DIMILIN 4L and other Group 15 insecticides/acaricides. The resistant individuals may dominate the insect/mite population if this group of insecticides/acaricides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of DIMILIN 4L or other Group 15 insecticides/acaricides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides/acaricides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.

- When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
- Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
- The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact UPL NA Inc. at 1-800-438-6071.

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 DIMILIN 4L.
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.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Grassland (includes rangeland, pastures, improved pastures and similar areas used for production of native, domesticated forage grasses for harvest for livestock primarily for grazing or mechanical harvest)	GRASSLAND RESTRICTIONS: Do not exceed a total of 1 fl oz per acre per cutting. Do not exceed a total of 3 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 Mormon cricket	0.5 - 1	Use 1 application on early instar (majority in the 2nd through 4th instar nymphal stages); use high rate for pastureland.
		0.4 - 0.5	Use on rangeland only, in a RAATs (Reduced Area and Agent Treatment) application on early instars. A RAATs application is an IPM strategy that takes advantage of grasshopper movement and conservation biological, control to allow DIMILIN 4L 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 DIMILIN 4L 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% 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 DIMILIN 4L up to a blanket (100%) coverage with 0.5 fl oz per acre.
		0.25 - 0.5	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	1	For maximum control use DIMILIN 4L at first sign of hatch outs and prior to larvae reaching fourth instars (<1/2 inch). DIMILIN 4L must be ingested and larvae must molt before populations are reduced.
	Horn Fly Face fly	1	Apply Dimilin 4L for the control of horn fly and face fly emergence from cattle manure patties for two weeks or longer.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Grassland (includes rangeland, pastures, improved pastures and similar areas used for production of native, domesticated forage grasses for harvest for livestock primarily for grazing or mechanical harvest)			<p>Aerial application: Apply in 1 to 5 gallons of water per acre and include 1 pt to 2 qt per acre of an evaporation control agent, such as emulsified vegetable or paraffinic crop oil if conditions are favorable for water evaporation (e.g. high air temperature and/or low humidity). For ULV application, use a total volume of at least 12 to 32 fl oz per acre and use at least 4 fl oz of an evaporation control agent, such as emulsified vegetable or paraffinic crop oil per acre. For other drift/evaporation retardant materials follow product label instructions. Use at least 2 parts of water for each part of oil. For low volume and ULV applications make sure the boom is filled with spray mixture containing the correct concentration of DIMILIN 4L before the 1st application begins.</p> <p>Ground application: Apply in 1 to 20 gallons of water per acre. Include 1 pt to 2 qt of an evaporation control agent, such as emulsified vegetable or paraffinic crop oil if conditions are favorable for water evaporation. For other drift/evaporation retardant materials, follow product label use instructions. Ground application equipment must give thorough coverage of spray volume used. Higher listed 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.</p> <p>Apply anytime after eggs begin to hatch through early instars. DIMILIN 4L remains active on the foliage and will continue to control larvae and grasshoppers/Mormon crickets that hatch later in the season. DIMILIN 4L 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 DIMILIN 4L with a registered adulticide to control later hatching species. Check mixing compatibility and sprayability prior to transferring to the main spray tank.</p> <p>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 move 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.</p>

Crops / Target	Pests	Application Rate (fl. ozs./acre)	Application Timing
<p>Livestock / Poultry</p> <p>Premises includes-</p> <ul style="list-style-type: none"> - Litter - Stale / waste feed - Manure - Manure / straw mixtures - Feed muck / spoilage - Spoiled organic refuse - Bedding material - Floors - Walls / wall footings - Posts - Cage frames - Ceilings 	<p>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.</p> <p>Spot treatment applications: For outdoor use, do not apply more than 3.75 fl. ozs. per acre per application, and do not exceed 17 applications per year. For indoor use, do not apply more than 260 fl. ozs. per acre per year.</p> <p>Manure and process wastewater shall not be applied closer than 100 feet to any down gradient surface waters, open tile line intake structures, sinkholes, agricultural or domestic well heads or other conduits to surface waters, unless a 35-foot wide vegetated buffer or physical barrier is substituted for the 100-foot setback or alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions achieved by the 100-foot setback.</p>		
	<p>House fly</p> <p>Stable fly</p> <p>Face Fly</p> <p>Horn Fly</p>	<p>6 fl. ozs./ 1000 ft.² in 2 - 20 gals. water per 1000 ft.²</p>	<p>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.</p>
		<p>3.75 fl. ozs. in 15 gals. water</p>	<p>Spot Treatments: Apply as a directed spray at a volume of 1 quart of spray solution to 10 sq. ft. of surface area. 15 gallons of spray solution will treat 600 sq. ft.</p> <p>Begin applications when flies first appear. Reapply as needed when adult fly numbers begin to increase, typically at 2 - 3 week intervals.</p>
	<p>Livestock / poultry operations includes 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.</p> <p>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.</p> <p>Dimilin 4L 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 Dimilin 4L may be desirable to achieve rapid reduction of that population.</p>		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
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	1	Apply DIMILIN 4L 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 armyworm Striped grass looper	1	For maximum control use DIMILIN 4L at first sign of hatch outs and prior to larvae reaching fourth instars (<1/2 inch). DIMILIN 4L must be ingested and larvae must molt before populations are reduced.
	See Aerial Application section of Grassland. Ground application: Apply in 5 to 30 gallons of water per acre. Include 1 pt to 2 qt of emulsified vegetable or paraffinic crop oil if conditions are favorable for water evaporation.		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing / Notes
Trees and Shrubs in the following areas: - Public / private forests - Forest plantings - Forest nurseries - Conifer nurseries - Christmas tree nurseries - Residential areas - Landscape plantings - Recreational areas - Shelterbelts - Rights of way	RESTRICTIONS: • Not for use in greenhouses, shadehouses or interiorscapes. • In campgrounds and other recreational areas, apply during periods of minimal use. Notify persons using recreational areas or living in the area to be sprayed before applications of this or any other pesticide.		
	Gypsy moth	0.5 - 2	Apply to early instars and prior to full leaf expansion (5-20%). RESTRICTION: Do not exceed 2 fl. ozs./A/year.
	Bagworms Browntail moth Pine tip moth Web worms	1 - 2	Apply to early instars and/or as noted for specific pests. RESTRICTION: Do not exceed 2 fl. ozs./A/year. For browntail moth, apply when overwintering 2nd instars become active in late April / early May. For pine tip moth, apply to early 2nd generation instars or when 75% of 1st generation pupal cases are empty. Peak emergence can be determined by twig sampling, pheromone traps, degree days, etc.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing / Notes
<p>Trees and Shrubs in the following areas:</p> <ul style="list-style-type: none"> - Public / private forests - Forest plantings - Forest nurseries - Conifer nurseries - Christmas tree nurseries - Residential areas - Landscape plantings - Recreational areas - Shelterbelts - Rights of way 	Tent caterpillars	1 - 4	<p>Apply to early instars and prior to full leaf expansion.</p> <p>RESTRICTION: Do not exceed 4 fl. ozs./A/year.</p>
	<p>Armyworms Budworms Cankerworms Hemlock looper Oakworms Pandora moth Pine shoot moth Sawflies Spanworms Tussock moth Weevils (terminal) Zimmerman moth</p>	2 - 4	<p>Apply to early instars and/or as noted for specific pests.</p> <p>RESTRICTION: Do not exceed 4 fl. ozs./A/year.</p> <p>For pandora moth, apply after egg hatch in fall or early instars in spring.</p> <p>For terminal weevils of pine and spruce, treat adults in spring after snow melt and prior to egg deposition. Thoroughly wet the leader and upper of branches. Add an emulsifiable paraffinic crop oil at the rate of 1 - 2 gallons per acre. Do not apply Dimilin 4L aerially.</p> <p>For Zimmerman moth, apply prior to construction of hibernaculum.</p>
	Leafminers (lepidopterous)	4 - 8 fl. ozs./ 100 gals.	<p>Apply when oviposition begins on new growth flushes.</p> <p>RESTRICTION: Do not exceed 8 fl. ozs./A/year.</p>
	Weevils (Diaprepes spp.)	4 - 8 fl. ozs./ 100 gals.	<p>Apply when adult weevils are present and/or to newly expanded growth. Adults will not be controlled, but reproductive potential of adults will be reduced, resulting in decreased egg hatch.</p> <p>RESTRICTION: Do not exceed 8 fl. ozs./A/year.</p>
	<p>Uniform coverage of the foliage is essential to achieve insect control. Determining the correct volume of water to apply is highly dependent on the tree height, canopy size and application type.</p> <p>For ground applications, use an adequate amount of water to obtain thorough coverage of the foliage without excessive runoff. As a general guideline, use the specified per acre dosage of DIMILIN 4L in the following amounts of water: High volume hydraulic sprayer- 100 to 400 gallons per acre; Mist blower, air blast sprayer- 5 to 30 gallons per acre.</p> <p>For aerial applications, use spray volumes of 1/2 to 5 gallons per acre are recommended.</p> <p>Use the higher water volumes when application conditions are less than ideal, for very large or dense tree stands, for high population pressure or when insects have reached older instar stages.</p> <p>Use the higher rate for applications made to late instar larvae. Applications to late instar stages may result in reduced foliage protection.</p>		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing / Notes
<p>Trees and Shrubs in the following areas:</p> <ul style="list-style-type: none"> - Public / private forests - Forest plantings - Forest nurseries - Conifer nurseries - Christmas tree nurseries - Residential areas - Landscape plantings - Recreational areas - Shelterbelts - Rights of way 			<p>For use in gypsy moth quarantine programs conducted by state cooperators as well as USDA personnel of both Plant Protection and Quarantine, APHIS and the U.S. Forest Service:</p> <p>For eradication of isolated infestations- make 2 applications of 1 fl. oz. Dimilin 4L per acre 7-14 days apart.</p> <p>For quarantine programs involving movement of nursery stock from infested to non-infested areas- make 2 applications of 1 to 2 fl. oz. Dimilin 4L per acre 7-14 days apart to nursery stock.</p> <p>Notify persons living in the area to be sprayed before application of this or any other pesticide.</p>

IMPORTANT NOTICE—To the extent consistent with applicable law, seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product, contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

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