

400-461

03/18/2008

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Judith Ball
Chemtura USA Corporation
199 Benson Road
Middlebury, Connecticut 06749

Dear Ms. Ball:

MAR 18 2008

Subject: Labeling Amendment; General Revisions
Dimilin 2L
EPA Registration No. 400-461
Date Submitted: February 21, 2008

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

1. Revise the header "***Precautions and Restrictions***" to read "***Restrictions***."
2. Within the **Grassland Restrictions** section of the label, revise the sentence "*The pesticide should only be applied when the potential for drift to adjacent sensitive areas...*" to read "*Apply only when the potential for drift to adjacent sensitive areas...*"

A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the referenced label, incorporating the above changes, before releasing the product for shipment. If you have any questions regarding this letter, please contact me at (703) 306-0415.

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis", written over a horizontal line.

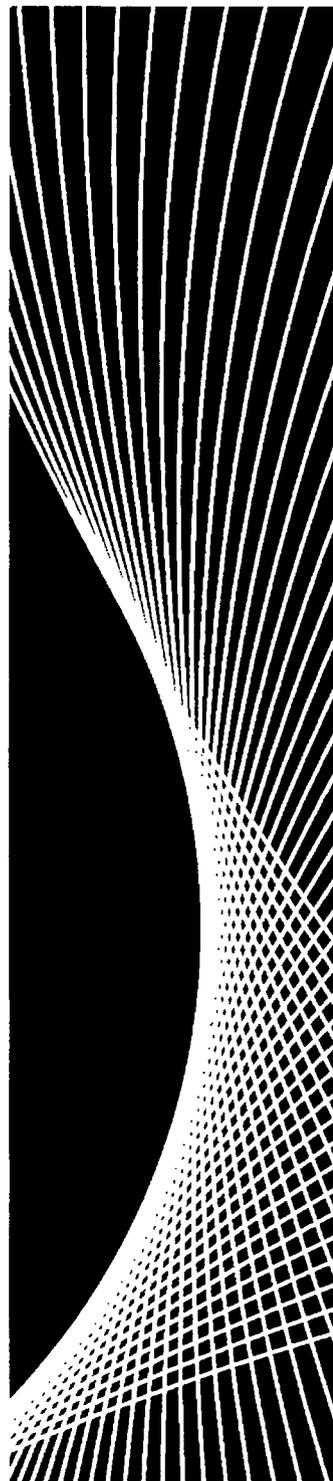
Kable Bo Davis
Entomologist
Insecticide-Rodenticide Branch
Registration Division (7505P)

Enclosure

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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.

Dimilin® 2L



Insect Growth Regulator Aqueous Flowable

Net Contents:

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

COMPOSITION

Active Ingredient: (% by weight)

diflubenzuron	
N-[[[(4-Chlorophenyl)amino]carbonyl]-2,6-difluorobenzamide*	22%
Inert Ingredients:	78%
TOTAL	100%

*Contains 2 lbs. diflubenzuron per gallon.
*U.S. Patent Number: 6,057,370; and 6,376,430B1 and other patents pending.

EMERGENCY ASSISTANCE:

EMERGENCY PHONE	800-292-5898
SAFETY DATA AND INFORMATION	866-430-2775
TRANSPORTATION EMERGENCY (CHEMTREC)	800-424-9300

Have the product container or label with you when calling a doctor or going for treatment.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

**ACCEPTED
with COMMENTS
In EPA Letter Dated:
MAR 18 2008**

*Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
400-461*

EPA REG. NO. 400-461
EPA EST. NO.
042

Manufactured for:
Chemtura Corporation
199 Benson Road
Middlebury, CT 06749



www.chemtura.com

**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: Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate, butyl rubber, 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.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE - Store in a 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 DISPOSAL

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 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 the Ag Container Recycling Council (ACRC) at 1-877-952-2272 (toll free) or www.acrcycle.org.

INSTRUCTIONS AND INFORMATION

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

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 determine 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, for the control of grasshoppers and Mormon crickets.

The distance of the outer most nozzles on the boom must not exceed 3/4 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 Inversions).

Controlling Droplet Size

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

- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles - Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the 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 stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length

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

Application Height

Applications should not be made at a height greater than 10 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 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

DIMILIN 2L 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 is slow and several days may elapse before the full effect is seen. Because of its specificity, DIMILIN has little or no effect on bees or other beneficial insects and is therefore an excellent product for use in IPM programs.

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

- Scouting regularly and use DIMILIN 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

PRECAUTIONS AND 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 DIMILIN treated soils within 1 month following last application, unless DIMILIN is authorized 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 DIMILIN 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 DIMILIN 2L with insecticides or other carriers, it is recommended that ingredients be premixed 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 DIMILIN 2L.
3. After the contents of the tank have been thoroughly agitated, a volume of carrier sufficient to fill the booms and piping system should be drained and then added back to the tank.

Aerial or ground application: Spray should be applied 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.

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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 not 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	2	For best results, apply when the majority of infesting grasshoppers have reached the 2nd to 3rd nymphal stage of development. DIMILIN 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 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 2L before the 1st application begins. 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 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.		
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, DIMILIN 2L should be applied 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 DIMILIN 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 DIMILIN 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. The higher application rate should be used on larger cotton and/or under conditions of greater larval pressure. First application should coincide with peak beet armyworm moth catches in pheromone traps, indicating another generation of larvae is imminent. DIMILIN is more effective on early stages of larval development, therefore 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. The higher application rate should be used on larger cotton and/or under conditions of greater larval pressure. Application should coincide with peak beet armyworm moth catches in pheromone traps. Additional applications may be needed if larval pressure continues.
	Fall armyworm Yellowstriped armyworm Southern armyworm Soybean looper * Cabbage looper * Saltmarsh caterpillar * *suppression	4-8	Application should be made during early stages of larval development. Repeat application until at least 8 fl oz per acre have been applied using a 5 to 7 day interval.
	Boll weevil - early season (before first bloom)	4 - 8	DIMILIN 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 Chemtura representative for oil 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 should allow a minimum of 7 days between applications. DIMILIN does not kill the adult boll weevil, 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 DIMILIN. Thus treat early and use multiple applications.

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Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Cotton (cont.)	Boll weevil - late season	2 - 4	DIMILIN will reduce the number of weevils that emerge in the following spring if applications are made when adult weevils are going into diapause 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. At least 2, but not more than 3, applications at 7 to 14 day intervals should be made.
	When DIMILIN is used alone for boll weevil control, it allows normal build-up of beneficial insects that may aid control of bollworm and budworm. Emulsifiable concentrate insecticide formulations used in tank mixes, in the presence of oil, may result in phytotoxicity. Care should be taken where such mixtures are used.		
	Grasshopper	2	Apply when the majority of infesting grasshoppers have reached the 2nd to 3rd nymphal stage of development. DIMILIN 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.
	<p>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.</p> <p>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.</p> <p>Adjuvant usage: Always use oil (1 to 2 qt) with DIMILIN 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 DIMILIN 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.</p> <p>Consult your supplier or Chemtura representative for oil specifications.</p> <p>Use sufficient application volume to assure adequate coverage. DIMILIN 2L may be mixed with other insecticides being applied for other cotton insects. When emulsifiable concentrate insecticide formulations are used with oil and DIMILIN in tank mixes, they may result in phytotoxicity. Care should be taken where such mixture is used.</p> <p>Because of the unique mode of action of DIMILIN, its visible effects on larvae/nymphs may not be seen for 5 to 7 days following application.</p>		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
<p>Grassland (includes rangeland, pastures, improved pastures and similar areas used for production of native, domesticated forage grasses for harvest for live-stock primarily for grazing or mechanical harvest)</p>	<p>GRASSLAND RESTRICTIONS: Do not 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. 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).</p>		
	Grasshopper	1 - 2	Use 1 application on early instar (majority in the 2nd through 4th instar nymphal stages); use high rate for pastureland.
	Mormon cricket	0.75 - 1	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 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 DIMILIN 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% 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, then the coverage and rate of DIMILIN 2L should be increased up to a blanket (100%) coverage with 1 fl oz per acre.
	Lepidopteran foliage feeding caterpillars such as: Fall armyworm Striped grass looper	2	If a second application is made, typically apply 2 to 3 weeks after the first application. For maximum control use DIMILIN 2L at first sign of hatch outs and prior to larvae reaching fourth instars (<1/2 inch). DIMILIN 2L must be ingested and larvae must molt before populations are reduced.
<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 2L 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 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 2L remains active on the foliage and will continue to control larvae and grasshoppers/Mormon crickets that hatch later in the season. DIMILIN 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 over-wintering species are present, tank-mix DIMILIN 2L with a registered adulticide to control later hatching species.</p> <p>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> <p>DIMILIN has been shown not to impact adult populations of various ground dwelling and flying non-target arthropods in a rangeland ecosystem.</p>			

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Leafy brassica group includes: Broccoli raab Cabbage Chinese (bok choy) Collards Kale Mizuna Mustard greens Mustard spinach Rape greens Turnip greens	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.		
	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. DIMILIN 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 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 DIMILIN 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.		
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	2	Apply DIMILIN 2L to manage these insects in their breeding areas before they move into cropland. See Grassland section for timing of application.
	Mormon cricket Lepidopteran foliage feeding caterpillars such as: Fall armyworm Striped grass looper	2	For maximum control use DIMILIN 2L at first sign of hatch outs and prior to larvae reaching fourth instars (<1/2 inch). DIMILIN 2L 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.			
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 Dimilin 2L at first sign of hatchouts and prior to larvae reaching 4 th instars (>1/2 inch). Apply in 20 to 50 gallons of water per acre depending on density of turf and caterpillar pressure. Dimilin 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 Armyworms, such as: Beet armyworm Fall armyworm Southern armyworm Yellow-striped armyworm Lesser cornstalk borer Soybean looper (suppression)	2 - 4 4 - 8	Make applications when larvae are small (< 0.5 inches) to give greater control and minimum insect damage to leave. Repeat application 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.
	Grasshopper	2	For best results, apply when the majority of infesting grasshoppers have reached the 2nd to 3rd nymphal stage of development. DIMILIN 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 section. Since Dimilin 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.		

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
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. Dimilin 2L per acre when larvae are small to give greater control and minimum damage to leaves and/or to 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 Dimilin 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 Dimilin will not control adults; however eggs laid by adults will exhibit reduced hatching in fruits once adults have consumed or contacted residues of Dimilin 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 DIMILIN 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.		
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 not 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 DIMILIN. Do not impregnate on granular materials. Do not use on wild rice (<i>Zizania spp.</i>).		
	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 DIMILIN 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, pinpoint flood, or continuous or continuous flood rice	8 + 8	To control larvae, split applications should be made.. 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 DIMILIN 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. For best results 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 DIMILIN 2L if infestations have been historically high.
Consult your local extension service for determination of economic threshold and/or determination of oviposition. DIMILIN 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 DIMILIN 2L by air using at least 5 gallons total volume per acre. Do not apply DIMILIN 2L if flooding is in progress. Activity will be reduced. Since DIMILIN 2L is water active, the entire field should be treated. For maximum activity of DIMILIN 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 should not be disturbed for a minimum of 4 day following the 1st treatment and 7 days following the 2nd application. Treated water should be held at least 14 days to allow for dissipation of DIMILIN 2L. DIMILIN 2L is not phytotoxic to rice. DIMILIN 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 a registered trademark of BASF AG; ®Grandstand is a registered trademark of Dow AgroSciences; ®Londax is a registered trademark of E.I. DuPont de Nemours and Company.			
Soybeans (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 cloverworm	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. DIMILIN 2L may be applied at the lower rate (2 fl oz) to prevent velvetbean caterpillar build-up when the vegetative growth of soy beans is completed and as pod formation begins. Consult local Extension Service regard ing infestation levels requiring treatment.
	Beet armyworm Fall armyworm Soybean looper (suppression)	4	Application must be made when worms are small before populations build.

Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Soybeans (cont.)	Grasshopper	2	Apply when the majority of infesting grasshoppers have reached the 2nd to 3rd nymphal stage of development. DIMILIN 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.
	<p>Aerial application: apply in sufficient water (3 to 5 gallons per acre) to achieve uniform coverage of foliage.</p> <p>Ground application: apply in 9 to 35 gallons of water per acre to give uniform coverage.</p> <p>Adjuvant usage: See Cotton Section.</p> <p>Since DIMILIN 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.</p> <p>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 DIMILIN under field conditions on both determinate and indeterminate cultivars. Application of 2 to 4 fl oz per acre to high yield potential soybean 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 3/4 inch long at one of the 4 uppermost nodes on the main stem with a fully developed leaf).</p>		
Stonefruit 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 (excluding cherries) season. Allow at least 21 days between applications.		
	Peach twig borer	12 - 16	Dormant/delayed dormant: Apply DIMILIN 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 of DIMILIN 2L 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 Omnivorous leafroller Omnivorous leaf tier Oriental fruit moth Redhumped caterpillar Variegated leafroller Walnut caterpillar Winter moth	8 - 16	Apply DIMILIN at 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 should 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 nuts group: 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	DIMILIN is most effective when applied prior to egg laying. DIMILIN 2L must be present on the surface upon which eggs are laid; therefore, full coverage spray is necessary. First application should be made when moth flights begin or when moths are found in pheromone traps. The 2nd application should be made 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 overwintering population may be extended over a long period of time. Under such circumstances, DIMILIN 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 DIMILIN 2L, it is recommended that DIMILIN 2L be tank mixed with an organophosphate as previously described.
	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. DIMILIN 2L should be applied 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. DIMILIN 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 DIMILIN 2L. Normally DIMILIN 2L will give season long control. If moth pressure remains high, additional applications should be made.
	Hickory shuckworm	8 - 16	Apply DIMILIN 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.

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Crops	Pests	Application Rate (fl oz/acre)	Application Timing
Tree nuts group (cont.)	Peach twig borer	12 - 16	<p>Dormant/delayed dormant: Apply DIMILIN 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 DIMILIN in the rate range if the crop has a history of heavy infestations.</p> <p>Bloom: Apply DIMILIN 2L at the rate of 12 to 16 fl oz per acre starting at early bloom. Always use the higher rate of DIMILIN in the rate range if the crop has a history of heavy infestations.</p> <p>Spring flight ("May Spray"): Using pheromone traps to determine flight activity, apply DIMILIN 2L at the rate of 16 fl oz per acre at initial flight activity.</p> <p>Summer flight: Using pheromone traps to determine flight activity, apply DIMILIN 2L at the rate of 16 fl oz per acre at initial flight activity.</p>
	Pecan nut casebearer	8 - 16	Apply DIMILIN 2L 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.
	Others, including: Fall webworm Filbert leafroller Oblique banded leafroller Omniverous leafroller Omniverous leaf-tier Oriental fruit moth Redhumped caterpillar Variegated leafroller Walnut caterpillar Winter moth	8 - 16	Apply DIMILIN 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.
	Ground applications should 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 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 efficacy. 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 at hull split.		

IMPORTANT NOTICE—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 to the extent consistent with applicable law, the buyer assumes the risk of any such use.

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