

PM 23

100-1729

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Mr. Thomas J. Parshley
Ciba Crop Protection
CIBA-GEIGY Corporation
P.O. Box 18300
Greensboro, NC 27419-8300

AUG - 7 1995

Dear Mr. Parshley:

Subject: PRIMO[®]
EPA Registration No. 100-729
Application Dated July 14, 1995, Request to
Amend Registration by Adding Deviations
to Requirements under the EPA Worker Protection
Standards, PR Notice 93-7 and 93-11

The proposed amendments to the required worker protection standard labeling for the subject pesticide product registration have been reviewed and are acceptable for registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as amended provided that you:

o submit one (1) printed copy of the final printed label before releasing the product for shipment under this labeling.

If this condition is 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 this condition.

A stamped copy of the label is enclosed for your records.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide-herbicide Branch
Registration Division (7505C)

E.Wilson:Diskette ABC10:08-07-95

CONCURRENCES

SYMBOL							
SURNAME							
DATE							

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WPS

Primo™

For Turf Growth Management

For managing growth, improving quality and edging of warm- and cool-season turfgrasses.

ACCEPTED
with COMMENTS
In EPA Letter Dated

AUG - 7 1995

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 100-729

Active Ingredient:

4-(cyclopropyl- α -hydroxy-methylene)-	
3,5-dioxo-cyclohexanecarboxylic acid ethyl ester	12.0%
Inert Ingredients:	88.0%
Total:	100.0%

- Ten Gallons
- One Quart
- One Pint
- 4 fl. oz.
- U.S. Standard Measure

Primo is an emulsifiable concentrate.

KEEP OUT OF REACH OF CHILDREN.

WARNING/AVISO

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

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-729

EPA Est. 100-AL-1 (Qts., Gals., turfPak)

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- CGA 108L1A 093 (1 Quart)
- CGA 108L2A 093 (1 Gallon)
- CGA 108L3A 093 (4 Ounce) EPA Est. 5905-GA-01
- CGA 108L4A 093 (10 Gallon)

[GANNONC.LABELP]PRIMOWPS - 9/15/93

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DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

IMPORTANT: Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product. If terms are not acceptable, return the unopened product container at once.

Conditions of Sale and Warranty

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Turf 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 Ciba-Geigy or the Seller. All such risks shall be assumed by the buyer.

Ciba-Geigy warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. Ciba-Geigy makes no other express or implied warranty of Fitness or Merc. Liability or any other express or implied warranty. In no case shall Ciba-Geigy or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product. Ciba-Geigy and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of Ciba-Geigy.

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DIRECTIONS FOR USE

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

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

AGRICULTURAL USE REQUIREMENTS

Use this product 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 treated areas without protective clothing until sprays have dried.

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 treated areas without protective clothing until sprays have dried.

Observe all precautions and limitations on this label and on the labels of each product used in tank mixtures with this product.

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FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN UNEVEN GROWTH REDUCTION OR SEVERELY STUNTED TURF.

General Information

Primo for turf growth management reduces the frequency of mowing and the amount of grass clippings by reducing the growth of warm- and cool-season turfgrasses. Other benefits such as increased turf density, increased color, and increased turf quality are frequently observed after Primo applications.

Primo can be applied to well-maintained, quality turfgrass areas such as residential and commercial lawns, golf courses, sod farms, sports fields, cemeteries and similar areas. Primo is useful in the management of difficult-to-mow areas and can be used to minimize the need for edging turfgrass along sidewalks, curbs, parking lots, driveways, flower beds, fences and around posts, storage sheds and trees.

Primo reaches the growing point by foliar uptake and is rainfast from rainfall or irrigation after one hour. Watering-in is not necessary for activation.

Application Information

Environmental conditions, management and cultural practices that affect turf growth and vigor will influence the response of the turf to Primo applications. Fertility level, moisture availability, plant vigor, height and frequency of mowing, etc. have been shown to influence the activity of Primo.

The rates presented in Tables 1 and 2 provide approximately 50% growth inhibition over a 4-week period with little or no discoloration of turf growing under favorable conditions.

Excessive turf growth, which may occur under high fertilization program or during spring flushes, may require higher rates of Primo. Under these conditions, Primo rates may have to be increased up to 50%*.

*To provide an adequate length of control

For extended growth suppression up to 8 weeks, where temporary discoloration can be tolerated, a maximum of twice the recommended Primo rate may be applied.

Primo use rates may need to be reduced up to 50% for turfgrass grown under conditions of low fertility, compaction or other factors which stress the turf.

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Multiple applications can be made each growing season, but do not exceed a total of 7.9 fl. oz./1,000 sq. ft. (21.4 pts./A) per year.

Mowing

Generally, Primo provides more suppression when turfgrasses are mowed at lower mowing heights than higher mowing heights. Application rates have been selected for typical mowing heights. The application rate may need to be adjusted depending on actual mowing conditions. It is suggested that Primo not be applied 12 hours before or 12 hours after mowing to minimize any potential injury.

Application Timing

Apply Primo to actively growing turf. Reduce Primo rates on turf going into dormancy due to high or low temperatures or lack of moisture.

Repeat applications of Primo may be made as soon as the turf resumes growth or more suppression is desired.

Equipment

Apply Primo with a sprayer capable of accurate and uniform applications. Clean spray equipment thoroughly before use. Primo may be applied in backpack sprayers, hand sprayers, boom sprayers, and by spraygun application devices. Rinse sprayer with clean water after use and dispose of rinsate in an approved manner.

Mixing Instructions

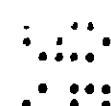
Primo should be mixed with 0.5 to 4.0 gals. water/1,000 sq. ft. (20 to 174 gals./A).

Prepare no more mixture than is necessary for the immediate operation. Agitate thoroughly before and during application. Primo may be tank-mixed with many commonly used pesticides and liquid fertilizers.

If using Primo in a tank mixture, observe all directions for use, sites, use rate dilution ratios, precautions, and limitations which appear on the tank mix product label. No label dosage rate should be exceeded and the most restrictive label precautions and limitations should be followed. This product should not be mixed with any product which prohibits such mixing.

Primo does not require the addition of a surfactant.

Backpack & Hand Sprayers (1/2 to 4 gallons capacity)



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Primo Alone: Add all of the required water to the mix tank. Add the appropriate amount of Primo. Vigorously shake the sealed mix tank before application.

Primo + Tank Mixtures: Add all of the required water to the mix tank. Add the Primo into the tank all at once. Then vigorously shake the sealed mix tank for 30 seconds. Tank mix partners may be added next. Dry and suspended formulations should be added prior to EC formulations. Refer to the tank-mix product label for further instructions. Begin spraying when all of the materials have been properly mixed.

Boom and Hand Gun Sprayers (with spray tanks having mechanical agitation)

Primo Alone: Add 1/2 to 2/3 of the required amount of water to the spray or mixing tank. With the agitator running, add the appropriate amount of Primo into the tank all at once. Continue agitation while adding the remainder of the water. Begin application of the spray solution. Maintain agitation until all of the mixture has been applied.

Primo + Tank Mixtures: Add 1/2 to 2/3 of the required amount of water to the spray or mixing tank. With the agitator running, add the appropriate amount of Primo into the tank all at once. Continue agitation while adding the remainder of the water. Tank mix partners may be added next. Dry and suspended formulations should be added prior to EC formulations. Refer to the tank-mix product label for further instructions. Continue agitation when adding the tank mix partners and while spraying the solution onto the crop.

Dyes

An EPA-approved water soluble dye to mark the sprayed area can be used to ensure uniform application, and to avoid skips and overlaps. Refer to the instructions which accompany the dye for proper concentrations and mixing procedures.

Staining

Primo at normal dilution rates will not stain concrete, marble, granite or other types of stone. Before using Primo around other types of stone test on a small scale basis first.

Seedhead Suppression.

At rates equal to or higher than the rates listed in Tables 1 and 2, Primo provides seedhead suppression of hybrid bermudagrass and partial seedhead suppression of bahiagrass, common bermudagrass, and tall fescue. Primo must be applied prior to seedhead formation.

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Notes

1. Do not apply to bare ground since Primo is foliarly absorbed.
2. Areas treated with Primo should continue to receive regular good maintenance practices including irrigation, fertilization, and weed, disease, and insect control when necessary, and as recommended for quality turf. Since some herbicides can injure turf, tank mixes with Primo should be tested on a small scale before widespread use.
3. Primo may cause temporary yellowing. This usually disappears about one week after application. To minimize yellowing and to enhance the green color of turf, tank mix 1-2 oz. of Sprint® 330 or recommended rates of other iron sources per 1,000 sq. ft.
4. Primo is not recommended for use on golf course greens.
5. Where a freshly manicured look is desired, mowing may be needed after Primo application.
6. Do not apply to Texas Common St. Augustinegrass.



90/11/

Table 1. Recommended Rates for Residential and Commercial Turf, Including but not Limited to Home Lawns, Parks, Recreation Areas, Golf Course Roughs, Cemeteries, Business Sites, Sports Fields and Sod Farms

<u>Turf Type</u>	<u>Fl. Oz./ 1,000 sq. ft.*</u>	<u>Pts./A</u>
Bahiagrass		
Growth suppression	1.0	3.0
Seedhead suppression	2.0	6.0
Zoysia	0.25	0.75
Centipede	0.50	1.5
St. Augustine		
Floritam	0.50	1.5
Raleigh, others	0.38	1.0
Bermudagrass		
Common	0.75	2.25
419	0.38	1.0
328, other hybrids	0.25	0.75
Tall Fescue		
Kentucky 31	1.0	3.0
Turf Types	0.75	2.25
Red Fescue	0.75	2.25
Kentucky Bluegrass	0.75	2.25
Annual Ryegrass	1.0	3.0
Perennial Ryegrass	1.0	3.0
Bentgrass (Lawn)	0.75	2.25
Mixtures:		
Kentucky Bluegrass	0.75	2.25
Fescue		
Ryegrass		

*These rates should provide 50% suppression of turf growth under good growing conditions for four weeks with minimal yellowing.

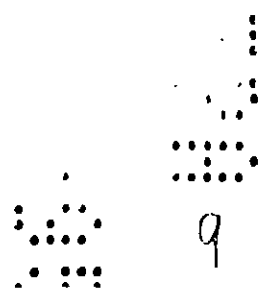


Table 2: Standard Rates for Golf Course Fairways
Cut at 1/2 inch or Less

<u>Turf Type</u>	<u>Fl. Oz./1,000</u> <u>sq. ft.*</u>	<u>Pts./A</u>
Zoysia	0.125	0.375
Bermudagrass		
Common	0.25	0.75
419	0.25	0.75
328, other hybrids	0.20	0.60
Kentucky Bluegrass	0.25	0.75
Perennial Ryegrass	0.50	1.50
Bentgrass	0.50	1.50
Bentgrass/Poa annua	0.25	0.75

*These rates should provide 50% suppression of turf growth under good growing conditions for four weeks with minimal yellowing.

Perimeter Edging and Banded Applications

Primo can be applied along the perimeter of lawns, sidewalks, curbs, parking lots, driveways, posts, storage buildings, pet pens, fences or other areas. Primo can be used around trees, shrubs, flower beds and other border plants or similar areas with no injury. Apply Primo in an 8 to 12-inch band with a single nozzle sprayer.

Refer to Table 3 for recommended application rates.

Table 3. Edging/Banded Application Rates

<u>Turfgrass (varieties)</u>	<u>Fl. oz./1,000 linear ft.*</u>
Bahiagrass	1-2
Common Bermudagrass	
St. Augustine (Floritam)	
Centipedegrass	
Tall Fescue, Red Fescue	1.0
Annual and Perennial Ryegrass	
Bentgrass	
Tifway Bermuda (419)	0.75
Kentucky Bluegrass	
St. Augustine (Raleigh)	
Tifgreen Bermuda (328)	
Zoysia	

*Use the higher concentration to reduce the growth of the turfgrass into adjacent areas.

Precautions: (1) Do not apply Primo through any type of irrigation system. (2) Do not graze areas or feed clippings to livestock.

Storage and Disposal

Pesticide Storage and Disposal

Do not store below 0°F. If crystals do form, store above 70°F, shaking periodically until crystals are dissolved.

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, they must be disposed of according to federal, state, or local procedures. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

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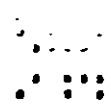
Container Disposal (4 Ounce, 1 Quart, 1 Gallon)

Triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

Container Disposal (10 Gallon)

This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than Primo. Reseal and return the container to an authorized Ciba-Geigy refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372 day or night.



Precautionary Statements

Hazards to Humans and Domestic Animals

WARNING/AVISO

Causes eye irritation. Do not get in eyes. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with skin or clothing. Avoid breathing vapor or spray mist.

Statement of Practical Treatment

If in eyes: Hold eyelids open and flush with a steady, gentle stream of water. Get medical attention.

If swallowed: Call a physician or Poison Control Center. Do not induce vomiting. Drink promptly a large quantity of milk, egg whites, or gelatin solution; or, if these are not available, drink large quantities of water. Never give anything by mouth to an unconscious person.

If inhaled: Remove victim to fresh air.

If on skin: Wash with plenty of soap and water. Call a physician if irritation persists.

Note to Physician: If ingested, lavage stomach with care to prevent aspiration of stomach contents. An aqueous suspension of activated charcoal can be given to absorb remaining toxicant.

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 G on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or viton
- Shoes plus socks
- Protective eyewear



Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Control Statements:

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(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.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters. Do not apply when weather conditions favor drift from treated areas.

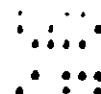
Primo™ and Sprint® trademarks of Ciba-Geigy Corporation
U.S. Patent No. 4,693,745

- ©1993 Ciba-Geigy Corporation (1 qt., gal.)
- ©1993 Ciba-Geigy Corporation (4 oz., 10 gal.)

Ciba Plant Protection
Turf and Ornamental Products
Ciba-Geigy Corporation
Greensboro, North Carolina 27419

- CGA 108L1 102 (1 Quart)
- CGA 108L2 102 (1 Gallon)
- CGA 108L3 023 (4 Ounce)
- CGA 108L4 023 (10 Gallon)

[GANNONC.LABELP]PRIMOWPS - 9/15/93



150A P1

CONTAINER

(4 Ounce, 1 Quart, 1 Gallon)

Primo™

For Turf Growth Management

For managing growth, improving quality and edging of warm- and cool-season turfgrasses.

Active Ingredient:

4-(cyclopropyl- α -hydroxy-methylene)-

3,5-dioxo-cyclohexanecarboxylic acid ethyl ester 12.0%

Inert Ingredients: 88.0%

Total: 100.0%

Ten Gallon

One Quart

One Pint

4 fl. oz.

U.S. Standard Measure

Primo is an emulsifiable concentrate.

KEEP OUT OF REACH OF CHILDREN.

WARNING/AVISO

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

See directions for use in attached booklet.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

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Precautionary Statements

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WARNING/AVISO

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EPA Reg. No. 100-729

EPA Est. 100-AL-1 (qts., gals.)

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U.S. Patent No. 4,693,745



Ciba Plant Protection
Turf and Ornamental Products
Ciba-Geigy Corporation
Greensboro, NC 27419

CGA 108L1A 093 (1 Quart)
CGA 108L2A 093 (1 Gallon)
CGA 108L3A 093 (4 Ounce) EPA Est. 5905-GA-01
CGA 108L4A 093 (10 Gallon)

Revised February 5, 1993

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