

100-816

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

APR 3 2003

Dr. Greg Watson
NAFTA Herbicides Team Leader, Regulatory Affairs
Syngenta Crop Protection, Inc.
P.O. Box 18300
Greensboro, NC 27419

Dear Dr. Watson:

Subject: Dual MAGNUM® Herbicide
EPA Registration No. 100-816
Application and Your Letter Dated February 28, 2002,
Request to Amend Registration, with Amended
Supplemental Label Received March 3, 2003 and Revised
April 3, 2003 To Add Use-Patterns to Allow Use
for Weed Control in Tomatoes (Transplanted and
Seeded), Grasses Grown for Seed, Sugarbeets, and
Sunflower; and To Amend Existing Use-Patterns for
Use in Soybeans (by Adding Post-Emergence Use), for
Use in Cotton (by Adding "Tank Mixture with Touchdown®
or Roundup® (Including Roundup Ultra™ and Roundup
Ultra™) for Use on Roundup Ready Cotton Only"; for
Use in Corn: "Dual Magnum Combinations - Tank Mixture
with Banvel®" To Include Tank Mixtures with Banvel SGF®
and Clarity at Equivalent Dosages

The subject application to amend the registration of
Dual Magnum Herbicide by revising the labeling as described in
the subject line of this letter have been reviewed and found to
be acceptable under the Federal Insecticide, Fungicide and
Rodenticide Act (FIFRA), as amended, provided that you:

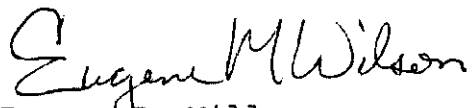
1. Delete the soybean claims from the proposed labeling.
2. Delete the instructions given in the sentence: "Follow instructions for use of Dual MAGNUM alone under **Application Procedures.**" If there are special instructions for the proposed use sites, they must be given as part of the use-pattern. This sentence must be deleted where ever it occurs.
3. For tomatoes add a restriction in the Note section that reads: "(3) Apply only by ground application."

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4. Submit one (1) copy of the final printed labeling prior to your shipment of this pesticide product under the revised enclosed stamped label.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA, section 6(e). Your release for shipment under this labeling constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Sincerely yours,


for Joanne I. Miller
Product Manager (23)
Herbicide Branch
Registration Division (7505C)

Enclosure

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PRODUCT INFORMATION



Syngenta Crop Protection, Inc.
Greensboro, NC 27409
www.syngenta-us.com

SUPPLEMENTAL LABEL FOR DUAL MAGNUM®

HERBICIDE

**For weed control in tomatoes (transplanted and seeded),
grasses grown for seed, soybeans, sugarbeets, sunflowers,
cotton, corn**

EPA Reg. No. 100-816

Active Ingredient:	
S-metolachlor (CAS No. 87392-12-9)	87.3%
Other Ingredients:	16.3%
Total:	100.0%

KEEP OUT OF REACH OF CHILDREN.

CAUTION

**All applicable directions, restrictions and precautions on the EPA-
registered label are to be followed.**

**This labeling must be in the possession of the user at the time of
pesticide application.**

SCP 816A-S1A 0203

**ACCEPTED
with COMMENTS
In EPA Letter Dated**

APR 3 2003

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

100-816

DIRECTIONS FOR APPLICATIONS

Transplanted Tomatoes – Dual MAGNUM Alone

Dual MAGNUM may be applied preplant incorporated or preplant before transplanting. If the latter method is used, keep soil disturbance to a minimum during the transplanting operation. Application may also be made post-directed to transplants after the first settling rain or irrigation. When an application is made post-directed, apply in a minimum of 20 gallons of water per acre and minimize contact with tomato plants. Dual MAGNUM will not control emerged weeds. Follow instructions for use of Dual MAGNUM alone under **Application Procedures**. In bedded transplanted tomatoes, apply Dual II MAGNUM preplant non-incorporated to the top of the pressed bed, as the last step, prior to laying plastic. Dual MAGNUM may also be used to treat row-middles in bedded tomatoes, as long as the total amount of Dual MAGNUM does not exceed the maximum allowed in Tomato Use Rates below.

Seeded Tomatoes – Dual MAGNUM Alone

Dual MAGNUM may be applied post-directed to direct seeded tomatoes. Tomato plants must be at least 4 inches tall at the time of application and the product must be applied in a minimum of 20 gallons of water per acre. Minimize spray contact with tomato plants. Dual MAGNUM will not control emerged weeds. Follow instructions for use of Dual MAGNUM alone under **Application Procedures**.

Tomato Use Rates - Within the rate ranges given below, use the higher rate of Dual MAGNUM if heavy weed infestations are expected. On coarse soils, apply 1.0-1.33 pts./A of Dual MAGNUM if organic matter content is less than 3% or 1.33 pts./A if organic matter is 3% or greater. On medium soils, apply 1.33-1.67 pts./A of Dual MAGNUM. On fine soils, apply 1.33-1.67 pts./A of Dual MAGNUM if organic matter content is less than 3% or 1.67-2.0 pts./A if organic matter content is 3% or greater.

Precautions: (1) Do not apply to varieties or cultivars with unknown tolerance to Dual MAGNUM. (2) Dual MAGNUM may damage transplants that have been weakened by any cause. To prevent damage, plant only healthy transplants. Do not plant when wet, cool, or unfavorable growing conditions exist. (3) In transplanted tomatoes, if Dual MAGNUM is applied preplant incorporated, incorporate to a depth

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less than the depth of transplanting, and use the lower end of the rate range for the given soil type, or damage may occur.

Note: To avoid illegal residues: (1) Do not apply Dual MAGNUM within 90 days of tomato harvest. (2) Do not exceed the maximum label rate for the soil texture per year.

Grasses Grown for Seed (ID, OR, WA)

To control weeds and volunteer grasses in established grasses grown for seed, apply Dual MAGNUM to established stands of tall fescue, orchardgrass, perennial ryegrass, fine fescue, bentgrass, and Kentucky bluegrass just before, during, or immediately following the first fall rains or just before or during a late summer or early fall irrigation, but before weed grasses emerge. The seed crop must have had one seed harvest or been established at least one year. The postharvest residue (straw) should be evenly spread, removed, or burned before applying Dual MAGNUM. Rainfall or irrigation is required after application and before weed emergence for best control. Dual MAGNUM will provide preemergence control/suppression of volunteer seedlings of perennial ryegrass, fine fescue spp., tall fescue, orchardgrass, bentgrass and Kentucky bluegrass. Dual MAGNUM will control those weed species listed in the Dual MAGNUM Alone section of the Dual MAGNUM label and will suppress or control rattail fescue, annual bluegrass, Italian ryegrass, California brome, downy brome, and roughstalk bluegrass.

Apply Dual MAGNUM by ground equipment in a minimum of 10 gallons of water per acre using the rate listed below according to grass species.

Established Grass Crop Grown for Seed	Pts./A
Fine fescue spp.	1.0
Perennial ryegrass	1.0
Bentgrass	1.0-1.33
Kentucky bluegrass	1.0-1.33
Orchardgrass	1.0-1.33
Tall fescue	1.0-1.33

Precautions: (1) Apply Dual MAGNUM only once per crop year. (2) Do not apply after the 15th of November or poor control may result. (3) Do not apply in tank mixtures with postemergence herbicides. (4) Application to perennial ryegrass and fine fescue stands under stress may cause crop injury. (5) If weed escapes occur following a Dual MAGNUM application, an application of a postemergence herbicide

may be necessary to control escapes. When making such an application, follow all directions, precautions, and limitations on the label of the postemergence herbicide. (6) Control may be decreased if excessive straw from the previous harvest is present at application and/or insufficient rainfall/irrigation occurs.

Notes: To avoid illegal residues: (1) Do not graze forage regrowth for 60 days following application west of the Cascades. (2) In areas east of the Cascades, do not graze forage regrowth for 150 days following application. (3) Hay may be harvested anytime between seed harvest and the next application of S-metolachlor.

Soybeans - Dual MAGNUM Alone

Postemergence: Apply 1.0-1.33 pts./A as a postemergence treatment to soybeans. This treatment will control only those weeds listed in the **Dual MAGNUM Applied Alone – Weeds Controlled** section that have not emerged. Apply this treatment to soybeans from emergence up through the 3rd trifoliolate leaf stage. A postemergence application of Dual MAGNUM may not be applied following a preplant surface, preplant incorporated, or preemergence application of Dual MAGNUM or Dual II MAGNUM.

Notes: To avoid possible illegal residues when Dual MAGNUM is applied postemergence: (1) Do not apply more than a total of 1.33 pts./A postemergence in the entire season. (2) Make postemergence applications at least 90 days before harvest. (3) When a postemergence application is made, do not graze or feed treated forage or hay from soybeans to livestock. (4) Do not make a postemergence application if a preplant surface, preplant incorporated, or preemergence application of Dual MAGNUM or Dual II MAGNUM has been made.

Treatments Made After Soybean Emergence

1. Tank Mixture with Glyphosate Formulations

Dual MAGNUM at 1.0-1.33 pts./A may be tank mixed with glyphosate formulations at labeled rates and applied from emergence up through the 3rd trifoliolate leaf stage of soybeans. Dual MAGNUM will control unemerged weeds listed in the **Dual MAGNUM Applied Alone – Weeds Controlled** section. Use this treatment only on soybeans designated for use with glyphosate, (e.g. Roundup Ready Soybeans).

2. Tank Mixture with Pursuit®

Dual MAGNUM at 1.0-1.33 pts./A may be tank mixed with Pursuit at labeled rates and applied from emergence up through the 3rd trifoliolate leaf stage of soybeans. Dual MAGNUM will control unemerged weeds listed in the **Dual MAGNUM Applied Alone – Weeds Controlled** section.

3. Tank Mixture with Glufosinate (Liberty®) Formulations

Dual MAGNUM at 1.0-1.33 pts./A may be tank mixed with glufosinate formulation at labeled rates and applied from emergence up through the 3rd trifoliolate leaf stage of soybeans. Dual MAGNUM will control unemerged weeds listed in the **Dual MAGNUM Applied Alone – Weeds Controlled** section. Use this treatment only on soybeans designated for use with glufosinate.

Notes: To avoid possible illegal residues when Dual MAGNUM is applied postemergence: (1) Do not apply more than a total of 1.33 pts./A postemergence in the entire season. (2) Make postemergence application at least 90 days before harvest. (3) When a postemergence application is made do not graze or feed treated forage or hay from soybeans to livestock. (4) Do not make a postemergence application if a preplant surface, preplant incorporated, or preemergence application of Dual MAGNUM or Dual II MAGNUM has been made.

Sugarbeets – Dual MAGNUM Alone

A. Fall Application

1. Apply after September 30 in ND, SD, MN, WI, and north of Route 30 in IA.
2. Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
3. Apply after October 31 north of Route 136 in IL.

In all locations, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is less than 55°F and falling. In minimum-till or no-tillage systems on soils having greater than 2.5% organic matter, use 1.67-2.0 pts./A on medium-textured and 2.0 pts./A on fine textured soils. For medium-textured soil, use the higher rate of Dual MAGNUM if heavy weed infestations are expected. Do not apply to frozen ground. A tillage operation may precede the application. A

fall and/or a spring tillage may follow application, but do not exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations. **Note:** If a spring application is made, the total rate of the fall plus spring applications must not exceed the rates given below for preplant incorporated or preemergence, or illegal residues may result.

B. Spring Applications

Apply Dual MAGNUM, either preplant incorporated or preemergence, using the appropriate rate specified below.

Preplant Incorporated or Preemergence:

Within the rate ranges given below, use the higher rate of Dual MAGNUM if heavy weed infestations are expected. On coarse soils with organic matter of less than 3%, apply 1.0-1.33 pts./A of Dual MAGNUM; 1.33 pts./A if organic matter is 3% or greater. On medium soils, apply 1.33-1.67 pts./A of Dual MAGNUM. On fine soils with organic matter of less than 3%, apply 1.33-1.67 pts./A of Dual MAGNUM; 1.67-2.0 pts./A if organic matter content is 3% or greater.

C. Postemergence Applications

Apply after sugarbeets have reached the first true leaf stage. Apply 1 pt./A on coarse soils, 1.33 pts./A on medium soils, and 1.67 pts./A on fine soils. More than one postemergence application may be applied, but the total should not exceed 2.6 pts./A. Weeds present at the time of application will not be controlled.

Note: To avoid illegal residues: (1) Do not apply more than 2.66 pts./A postemergence or more than 4 pts./A as a total from all applications in a season. (2) Do not harvest within 60 days after the last application.

Precaution: In coarse soils, Dual MAGNUM applied before emergence of sugarbeets may cause injury. If Dual MAGNUM is applied preplant incorporated, use the lower end of the rate range for the given soil type, or crop injury may occur.

Sunflowers – Dual MAGNUM Alone

Preplant Incorporated or Preemergence:

Within the rate ranges given below, use the higher rate of Dual MAGNUM if heavy weed infestations are expected. On coarse soils

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with organic matter of less than 3%, apply 1.0-1.33 pts./A of Dual MAGNUM; 1.33 pts./A if organic matter is 3% or greater. On medium soils, apply 1.33-1.67 pts./A of Dual MAGNUM. On fine soils with organic matter of less than 3%, apply 1.33-1.67 pts./A of Dual MAGNUM; 1.67-2.0 pts./A if organic matter content is 3% or greater.

Note: To avoid illegal residues: (1) Do not allow livestock to graze or feed in treated area. (2) Do not exceed the maximum label rates given above for sunflowers for the soil type.

COTTON – DUAL MAGNUM ALONE

Postemergence: Apply Dual MAGNUM broadcast over-the top or directed to the soil surface according to the rate and cotton height limitations listed below by state. Over-the-top postemergence application may be made not later than 100 days before harvest, and directed-postemergence application may be made not later than 80 days before harvest. Application before weeds emerge or after clean cultivation to remove existing weeds is necessary since Dual MAGNUM will not control emerged weeds. Dual MAGNUM postemergence may be applied over any previous registered herbicide treatment. In sprinkler-irrigated areas, sprinkler irrigate after application with ½-1 inch of water (½ inch on *coarse-textured soils* to 1 inch on *fine-textured soils*) to incorporate Dual MAGNUM. In furrow-irrigated areas, apply Dual MAGNUM, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less), and then irrigate. In nonirrigated areas, if at least ½ inch of rainfall does not occur within 10 days after application, cultivate with a rolling cultivator or similar implement that provides uniform shallow incorporation of Dual MAGNUM.

State	Multiple Dual MAGNUM Applications to Cotton		
	Preplant Incorporated or Preemergence Pts./A	+	Postemergence and Height Pts./A
MS, LA, TN, AR, KS, MO	0.5-1.33 (Preemergence Only)	+	0.5-1.33 to at least 3" tall Cotton
TX, OK, NM	1.0-1.33	+	1.0-1.33 to at least 3" tall Cotton before August 1
NC, VA	1.0-1.33 (Preemergence Only)	+	1.0-1.33 to at least 3" tall Cotton

**COTTON – TANK MIXTURE WITH TOUCHDOWN® OR
ROUNDUP® (INCLUDING ROUNDUP ULTRA™ AND
ROUNDUP ULTRAMAX™) FOR USE ON ROUNDUP READY
COTTON ONLY**

Apply Dual MAGNUM as a tank mixture with Touchdown or Roundup in water postemergence over-the-top or postemergence-directed for control of emerged weeds listed on the Touchdown or Roundup labels and for residual preemergence control of weeds listed on the Dual MAGNUM label. See the **Cotton – Dual MAGNUM Alone – Postemergence** section of this label for rates and timings of Dual MAGNUM and follow the Touchdown or Roundup label for their respective rates, application method, and application timing restrictions. Do not add additional spray adjuvants, surfactants, fertilizer additives, or pesticides to this tank mixture if applied postemergence over-the-top, or unacceptable injury may occur.

Precaution: Do not apply this tank mixture postemergence to any cotton variety unless it is designated Roundup Ready and unless the Touchdown or Roundup formulation being used is registered for postemergence use in Roundup Ready Cotton. Postemergence over-the-top applications of this tank mixture may cause temporary injury in the form of necrotic spotting to exposed cotton leaves, which will not affect normal plant development. Do not apply Touchdown or Roundup postemergence over-the-top to cotton past the growth stage limit specified on their respective labels. Do not use on sand or loamy sand soils in Gaines County, TX.

**CORN – DUAL MAGNUM COMBINATIONS – TANK MIXTURE WITH
BANVEL®**

Postemergence for Control of Pigweed (Mid-Atlantic states, including DE, MD, PA, VA, and WV): Apply 1.0-1.5 pts. of Dual MAGNUM + 0.5-1.0 pt./A of Banvel or Clarity® by ground equipment when pigweed plants are less than 3 inches tall and before corn exceeds 5 inches in height in a minimum of 20 gals. of spray per acre. Use the lower rate on coarse-textured and low organic matter soils. Use the higher rate on fine-textured and high organic matter soils.

Dual MAGNUM®, Touchdown®, and the Syngenta logo are trademarks of a Syngenta Group Company
U.S. Patent Nos. 4,478,635; 4,618,361; 4,671,819; 5,002,606

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Banvel® is a trademark of Micro Flo Company LLC

Clarity®, and Pursuit® are trademarks of BASF Ag Products

Liberty® is a trademark of Bayer CropScience

Roundup®, Roundup Ultra™, and Roundup UltraMax™ are trademarks of Monsanto Company

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SUPPLEMENTAL LABELS\Dual Magnum S1A 0203 - pd - 04/03/03