

22 APR 1993

Debra A. Logan
 American Cyanamid Company
 Agricultural Research Division
 P.O. Box 400
 Princeton, NJ 08543-0400

Dear Ms. Logan:

Subject: Revised Labeling
 Avenge Wild Oat Herbicide
 EPA Registration No. 241-266
 Your Submission Dated December 9, 1992

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) Add the appropriate Net Contents statement.
- 2) Change the heading "Hazards to Humans" to read "Hazards to Humans and Domestic Animals."

A stamped copy is enclosed for your records. Please submit five (5) final printed copies for the referenced label, incorporating the above changes, before releasing the product for shipment.

Sincerely yours,

Joanne I. Miller
 Product Manager (23)
 Fungicide-Herbicide Branch
 Registration Division (H7505C)

Enclosure

CONCURRENCES							
SYMBOL	H7505C						
SURNAME	D. KENNY						
DATE	4/20/93						

PH 23 241-266

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AVENGE®
wild oat herbicide

FOR USE IN BARLEY AND WHEAT

ACTIVE INGREDIENT:

difenzoquat methyl sulfate.....

INERT INGREDIENTS.....

TOTAL

22 APR 1993
100.00
68.83

(1 gallon contains 2 lbs. of difenzoquat cation)

EPA Reg. No. 241-266

EPA Est. No. 1

KEEP OUT OF REACH OF CHILDREN

DANGER!/PELIGRO!

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

STATEMENT OF PRACTICAL TREATMENT

- If in eyes: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.
- If swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution; if these are not available, large quantities of water. Avoid alcohol.
- If on skin: Wash with plenty of soap and water. Get medical attention.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

See Inside For Additional Precautionary Statements.
See Directions For Use Inside

In case of an emergency endangering life or property involving this product, call collect, day or night, Area Code 201-835-3100.

(Company Logo)

American Cyanamid Company
Agricultural Division
Crop Protection Chemicals Department
Wayne, NJ 07470 ©1992

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS

DANGER!

CORROSIVE: CAUSES IRREVERSIBLE EYE DAMAGE
HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN

DO NOT get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash separately from other clothing before reuse.

DO NOT apply this product in such a manner as to directly, or through drift, expose workers or other persons. The area being treated must be vacated by unprotected persons. DO NOT enter treated areas without protective clothing until sprays have dried.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. DO NOT apply when weather conditions favor run-off and/or drift from target area. DO NOT contaminate water when disposing of equipment washwaters.

GENERAL INFORMATION

AVENGE is a selective herbicide for the postemergence control of wild oats in barley and wheat. See the section DIRECTIONS FOR USE for varietal restrictions.

If broadleaf weeds must also be controlled in these crops, AVENGE may be tank mixed with certain broadleaf herbicides which are listed under the HOW TO USE AVENGE PLUS BROADLEAF HERBICIDES section. AVENGE alone or in combination can be applied postemergence by ground equipment or aircraft.

Maximum control of wild oats in barley and wheat with AVENGE alone, or in combination, is obtained when temperature, moisture, fertility and cultural practices provide favorable conditions for plant growth. When applied under poor conditions for plant growth such as cold/wet or hot/dry weather or low soil fertility, AVENGE can produce yellowing or slight tip burn of barley or wheat. However, recovery is rapid when good growth conditions return. A slight reduction of yield may result under conditions described above.

Observe all cautions and limitations on this label and the labels of products used in tank mixtures with AVENGE. The use of AVENGE not consistent with this label can result in injury to crops, animals or persons. Keep containers closed to avoid spills and contamination.

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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 through any type of irrigation system.

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

STORAGE AND DISPOSAL

Keep from freezing. AVENGE should be stored at temperatures at or above 40°F (5°C). Ice will form in the container at 15°F (-10°C). If ice occurs place container at room temperature until ice melts. Stability of AVENGE is not affected by freezing and thawing.

DO NOT contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. DO NOT reuse empty container.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL FOR 2.5 GALLONS: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Consult federal, state or local authorities for approved alternative disposal procedures.

CONTAINER DISPOSAL FOR FIELD KEG, MINI-BULK AND BULK: Return empty container for reuse.

WHERE TO USE AVENGE: AVENGE alone or in combination can be applied to:

BARLEY: All Varieties

WHEAT: SEE TABLE BELOW

WHEAT TYPE	YES		NO
Fall and Winter Seeded	All	EXCEPT	Borah, WS 1809, WS 1877, WS 1859, Klasic, Probrand 771, Tadinia, and Mexican durumms
Soft-White Spring Seeded	All		
Spring Seeded durumms	All	EXCEPT	Edmore, Fjord, Kyle, Laker, Lakota, Lloyd, Regal, Renville Vic, Wakooma, Wascona, Westbred 813, and Westbred 881
Hard Red Spring Seeded	Amidon, Apex, Baart, Benito, Bronze Chief, Buckshot, Butte, Butte 86, Canuck, Centa, Chester, Columbus, Copper, Coteau, Courtney, Era, Erik, Federation, Fjeld, Fortuna, Germain 444, Glenlea, Glennman, HY320, Katepwa, Kitt, Kodiak, Leader, Leif, McKay, Marberg, Marshall, Minnpro, Newana, Neepawa, NK(PB) 751, Norak, Norana, Olaf, Oslo, Owens, Penawawa, Pioneer 2369, Pioneer 2385, Pondera, Probrand 711, Probrand 751, Prodax, Rambo, Selkirk, Solar, Stoa, Success, Telemark, Vance, Victory, W 2502, Walera, Wheaton and Yecoro rojo		DO NOT apply to varieties of hard red spring wheat not listed

WHEN TO USE AVENGE: AVENGE or AVENGE/broadleaf tank mix combinations are to be applied when the majority of wild oat plants are in the 3- to 5-true leaf stage of growth (tillering). The timing of AVENGE application to wild oats frequently coincides with barley in the 2- to 7-leaf stage, spring-seeded wheat in the 5- to 6-leaf stage, and fall-seeded wheat in the 4-leaf to tillered stage of growth. To achieve maximum control, the growth stage of wild oats in each field to be treated should be examined frequently to determine the 3- to 5-true leaf stage (tillering) for proper timing of AVENGE application. Density of wild oats per square foot should also be determined to select the correct AVENGE application rate.

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WILD OAT STAGES

(artwork)

(artwork)

(artwork)

3-true leaf stage

4-true leaf stage

5-true leaf stage

EQUIPMENT APPLICATION INSTRUCTIONS

The spray equipment must be clean and properly calibrated before treatments are applied. For best results, use flat fan nozzles, at pressures of 20 to 40 psi to achieve uniform spray distribution and minimize drift. DO NOT use flood jet nozzles. Keep the by-pass line on or near the bottom of the tank to minimize foaming. In ground applications, check nozzles for even distribution of spray droplets. In aerial applications, it is recommended that a flagman be located at each end of the field, or an automatic mechanical flagging unit be attached to the aircraft to ensure uniform aerial application and to avoid overlapping and possible crop injury.

AVENGE APPLICATION

DO NOT apply AVENGE when the flagleaf is exposed or crop injury may occur. DO NOT apply AVENGE if rain is predicted within 6 hours. DO NOT spray AVENGE when freezing temperatures are forecast or when plants are wet with dew or rain. DO NOT apply AVENGE or AVENGE tank mix combinations under severe conditions for plant growth such as drought, extreme temperature fluctuation, low soil fertility and plant disease.

Apply AVENGE alone and AVENGE plus broadleaf herbicide combinations in 5 to 20 gallons of water per acre by ground equipment or 3 to 10 gallons of water per acre by aircraft. DO NOT let spray drift onto adjacent crops.

For spray volumes in excess of 10 gallons of spray per acre (gpa), the addition of a surfactant is required. Use any non-ionic surfactant of at least 80% active ingredient cleared for application to growing crops. Consult Surfactant Addition Table for amount of surfactant required.

SURFACTANT ADDITION TABLE

Gallons Per Acre	Surfactant Required Per 100 Gallons (pints)
10	0
15	2
20	4
30	8

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HOW TO USE AVENGE ALONE

If wild oats are growing vigorously, select the proper application rate from the AVENGE Rate Recommendation Table (below) that corresponds to the population of wild oat plants per square foot in the field to be treated.

ASSERT®/AVENGE® TANK MIX FOR WILD OAT CONTROL

AVENGE may be tank mixed with ASSERT® herbicide* for the control of wild oats only. Consult the ASSERT label for use directions, application rates and timing, state restrictions, precautions, and ASSERT recropping/rotation limitations. * DO NOT use in California.

HOW TO USE AVENGE PLUS BROADLEAF HERBICIDES

AVENGE may be tank mixed with the following broadleaf herbicides:

2,4-D amine or ester	Express ¹
Ally ¹	Glean ¹
bromoxynil	Harmony ¹
bromoxynil plus MCPA	Harmony Extra ¹
Curtail ²	MCPA amine or ester
Curtail M ²	

Select the proper AVENGE application rate as described in the AVENGE Rate Recommendation Table (below). In order to assure optimum broadleaf weed control follow label recommendations of your broadleaf herbicide. Be sure that application timings coincide with application timings for AVENGE. DO NOT apply AVENGE tank mix combinations when the crop flagleaf is exposed or crop injury may occur. DO NOT apply AVENGE tank mix combinations under stress conditions.

Follow the most restrictive precautions, directions, and recropping/rotation limitations that appear on combination partner product labels.

AVENGE Rate Recommendation Table

Wild Oat Population	Wild Oat Density Plants Per Square Foot	AVENGE Rate Per Acre (pints)
Low	1-10	2 1/2
Moderate	11-25	3
High	More than 25	4

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MIXING INSTRUCTIONS

HOW TO MIX AVENGE ALONE

1. Fill tank one-half to three-quarters full with clean water and start agitation.
2. When using AVENGE alone, add AVENGE and surfactant to the partially filled tank while agitating. When AVENGE is thoroughly mixed, fill remainder of tank with water while agitating.
3. Allow mixture to agitate and recycle for at least five minutes before spraying.
4. Agitation must be continued until spraying is complete.

HOW TO MIX AVENGE PLUS BROADLEAF HERBICIDES

1. Fill tank one-half to three-quarters full with clean water and start agitation.
2. When using AVENGE with a broadleaf herbicide, add the broadleaf herbicide first to the partially filled tank while agitating.
3. When the broadleaf herbicide is thoroughly mixed, add the AVENGE and surfactant to the tank, then complete filling the tank with water while agitating.
4. Allow mixture to agitate and recycle for at least five minutes before spraying.
5. Agitation must be continued until spraying is completed.

HOW TO MIX AVENGE PLUS ASSERT HERBICIDE

Follow mixing instructions on the ASSERT label.

NOTE: DO NOT MAKE MORE THAN ONE APPLICATION OF AVENGE PER GROWING SEASON. DO NOT GRAZE TREATED FIELDS OR CUT TREATED FORAGE FOR SILAGE OR HAY. BARLEY OR WHEAT CAN BE REPLANTED IF LOSS OF CROP OCCURS. AFTER HARVEST, BARLEY AND WHEAT GRAIN AND STRAW FROM TREATED FIELDS CAN BE FED TO LIVESTOCK. ROTATION TO OTHER CROPS CAN BE MADE THE FOLLOWING YEAR, EXCEPT WHERE LIMITED BY TANK MIX PARTNER LABEL RESTRICTION.

DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on research and field use. 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. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use of, or application of the product contrary to label instructions, all of which are beyond the control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company shall not be responsible for losses or damages resulting from use of this product in any manner not set forth on this label. User assumes all risks associated with the use of this product in any manner not specifically set forth on this label.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above. **CYANAMID DOES NOT MAKE OR AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED AND EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

BUYER'S EXCLUSIVE REMEDY AND AMERICAN CYANAMID'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF AVENGE. In no case shall Cyanamid or the seller be liable for consequential, special or indirect damages resulting from the use or handling of this product.

USES WITH OTHER PRODUCTS (TANK MIXES)

If this product is used in combination with any other product except as specifically recommended in writing by American Cyanamid Company, then American Cyanamid Company shall have no liability for any loss, damage, or injury arising out of its use in any such combination not so specifically recommended. If used in a combination recommended by American Cyanamid Company, the liability of American Cyanamid Company shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the American Cyanamid Company product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the product.

- 1 Ally, Express, Glean, Harmony, and Harmony Extra are trademarks of E.I. duPont de Nemours and Company, Inc.
- 2 Curtail and Curtail M are trademarks of DowElanco.