



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

JUL 2 1998

Ms. Donna D. Switzer, CHMM
Registration Specialist
Agrevo USA Company
Little Falls Centre One
2711 Centerville Rd.
Wilmington, DE 19808

Dear Ms. Switzer:

Subject: Reregistration
Label Revisions Betamix - 70WP Sugar Beet Herbicide
EPA Registration No. 45639-156
Your Submission Dated April 22, 1998

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you:

1. Amend your Signal Word to WARNING on the front panel.
2. Amend your Statement of Practical Treatment (SOPT) to read as follows:

IF SWALLOWED: Call a physician or Poison Control Center. Do not induce vomiting. Drink promptly a large quantity of milk, egg whites, gelatin solution, or if these are not available, drink large quantities of water. Avoid alcohol.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention if symptoms persist.

IF IN EYES: Hold eyelids open and flush with steady, gentle stream of water for 15 minutes. Get medical attention.

Probable mucosal damage may contraindicate the use of gastric lavage.

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3. Amend your Hazards to Humans section to include the following:

Causes substantial but temporary eye injury. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

Replace your Signal Word under the Hazards to Humans section with WARNING.

4. Revise the Personal Protective Equipment section under the Precautionary Statements to read as follows:

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

5. Remove the Mixers and loader must wear label and related text.

6. Amend the Agricultural Use Requirements, PPE for required entry to read as follows:

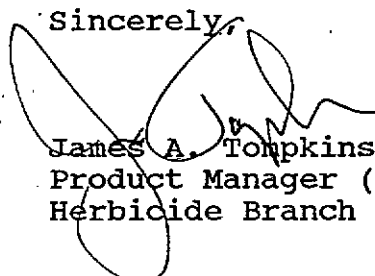
- . Coveralls
- . Chemical-resistant gloves such as barrier laminate or butyl rubber or nitrile rubber or Viton
- . Shoes plus socks
- . Protective eyewear

7. On page five (5) correct typographical error "The pesticide should be applied when to potential" with "when the potential".

8. Submit two (2) copies of your final printed labeling before you release the product for shipment.

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

Sincerely,


James A. Tompkins
Product Manager (25)
Herbicide Branch 7505C

FOR AGRICULTURAL USE ONLY

Betamix[®] - 70WP

SUGAR BEET HERBICIDE

Postemergence Herbicide for Control of Weeds in Sugar Beets

Active Ingredient:

Phenmedipham*

Desmedipham**

Inert Ingredients:

30410

ACCEPTED
with COMMENTS
In EPA Letter Dated
JUL 2 1998
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
45639-156

	35.0%
	35.0%
	30.0%
Total	100.0%

*3-methoxycarbonylaminophenyl-3-methylcarbanilate

**Ethyl m-hydroxycarbanilate carbanilate (ester)

EPA Reg. No. 45639-156

EPA Est. No. 407-MN-1

U.S. Patent No. 3,404,975

U.S. Patent No. 3,692,820

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Flush with plenty of water.

IF ON SKIN: Wash with plenty of soap and water.

IF SWALLOWED: Call a physician or poison control center. Do not induce vomiting.

NOTE TO PHYSICIAN: Empty stomach contents by gastric lavage. Avoid aspiration.

AgrEvo USA Company
2711 Centerville Road
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Wilmington, DE 19808

Net Contents:

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IN CASE OF MEDICAL EMERGENCIES OR HEALTH AND SAFETY INQUIRIES, OR IN CASE OF FIRE, LEAKING, OR DAMAGED CONTAINERS, INFORMATION MAY BE OBTAINED BY CALLING 1-800-471-0660.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS**

CAUTION

Avoid contact with skin and eyes. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

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 F on EPA chemical resistance category selection chart.

Applicators and Other handlers must wear:

- ◆ Coveralls over short-sleeved shirt and short pants
- ◆ Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or Viton
- ◆ Chemical-resistant headgear for overhead exposure
- ◆ Chemical-resistant apron when cleaning equipment, mixing, or loading
- ◆ Protective eyewear

Discard clothing or 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.

Mixers and loader must wear:

- ◆ Long sleeved shirt and long pants
- ◆ Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or Viton
- ◆ Shoes plus socks
- ◆ Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C)
- ◆ Protective eyewear

ENGINEERING CONTROLS STATEMENT

When handlers use closed systems, 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.

This product may cause skin sensitization reactions in some people.

ENVIRONMENTAL HAZARDS

Do not apply directly to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposing of equipment washwaters.

STORAGE AND DISPOSAL

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

Storage: Store in a cool, dry place which is inaccessible to children, pets or livestock.

Pesticide Disposal: Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

GENERAL INFORMATION

BETAMIX WP is a selective Postemergence herbicide for use in sugar beets (including beets grown for seeds) for control of the following weeds:

Annual sowthistle (<i>Sonchus oleraceus</i>)	Black nightshade (<i>Solanum nigrum</i>)
Coast fiddleneck (<i>Amsinckia intermedia</i>)	Common chickweed (<i>Stellaria media</i>)
Common lambsquarters (<i>Chenopodium album</i>)	Common ragweed (<i>Ambrosia artemisiifolia</i>)
Green foxtail (<i>Setaria viridis</i>)	Groundcherry (<i>Physalis lanceifolia</i>)
Kochia* (<i>Kochia scoparia</i>)	London rocket (<i>Sisymbrium irio</i>)
Nettleleaf goosefoot (<i>Chenopodium murale</i>)	Pigeon grass (yellow foxtail) (<i>Setaria glauca</i>)
Prostrate pigweed (<i>Amaranthus gracizans</i>)	Purslane (<i>Portulaca oleraceus</i>)
Redroot pigweed (<i>Amaranthus retroflexus</i>)	Shepherdspurse (<i>Capsella bursa-pastoris</i>)
Wild buckwheat (<i>Polygonum convolvulus</i>)	Wild mustard (<i>Brassica kaber</i>)

* Spray Kochia while in the rosette stage, less than 1" in diameter. For best results, spray when the weeds are at the two-leaf stage.

When used as directed, BETAMIX WP is selective in sugar beets past the two-true leaf stage. Beets may be severely injured if treated before the two-true leaf stage. The stage of growth of the weeds is very important for satisfactory control. For best results, spray when the weeds are at the two-true leaf stage. Best results are obtained when the weeds are actively growing and are not under water or heat stress.

USE PRECAUTIONS

DO NOT APPLY BETAMIX WP TO SUGAR BEETS LATER THAN 75 DAYS PRIOR TO HARVEST.
DO NOT EXCEED A TOTAL OF 2.8 LBS. BETAMIX WP PER ACRE PER SEASON.
DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM. BETAMIX WP MAY CAUSE BEET INJURY IF THE CROP IS UNDER STRESS FROM ONE OR MORE OF THE FOLLOWING CONDITIONS:

- ♦ Rapid climatic changes from cool, overcast days, to hot (85°F. or over), bright days.
- ♦ Windy conditions or drought.
- ♦ Use of a pre-plant or pre-emergence herbicide or other chemicals.
- ♦ Insect or disease injury.
- ♦ Close cultivation.

If stress conditions are present, delay application in order to give plant a chance to recover.

If extreme weather conditions are of short duration, delay spraying until the end of such a period. If BETAMIX WP applications must be made on days with extreme temperature and/or brightness, delay spraying until evening.

DO NOT OVERTREAT: The use of higher than recommended rates may cause beet injury.

Do not spray while dew is present.

Rainfall within 6 hours of spraying may reduce weed kill.

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Do not allow spray drift to contact adjacent crops that may be injured by spray drift.

IMPORTANT: BETAMIX WP may cause temporary growth retardation and/or chlorosis or tip-burn on sugar beets. Beets usually resume normal growth within 10 days.

PRACTICES TO LOWER THE POTENTIAL FOR SPRAY DRIFT

Avoiding spray drift at the application site is the responsibility of the applicator. The interactions of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. In order to avoid phytotoxic spray drift to non-target crops during application of BETAMIX WP, the following buffer zones should be observed:

Cotton, Potatoes, Sunflowers, Sorghum, Wheat	50 feet
Blackeye Beans, Cabbage, Flax	100 feet
Lettuce, Canola, Tomatoes	300 feet

DO NOT APPLY WHEN WIND SPEED IS OVER 10 MILES PER HOUR. AVOID APPLICATIONS WHEN CONDITIONS FAVOR DRIFT.

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 forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed $\frac{3}{4}$ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where States or Tribes 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*.

Aerial Drift Reduction Advisory Information:

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 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 $\frac{3}{4}$ of the wingspan of 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 top of 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 crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this 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 windspeeds 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 spray 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 both hot and dry.

Temperature Inversions:

- Avoid applications 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 and 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 the 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 upward and rapidly dissipates indicates good vertical air mixing.

The pesticide should 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 sensitive areas).

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read the entire Directions for Use before using this product.

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 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 24 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 ~~over short-sleeved shirt and short pants~~
- ◆ Chemical-resistant gloves such as barrier laminate or butyl rubber or nitrile rubber or Viton
- ◆ ~~Chemical-resistant footwear plus socks~~ Shoes & Socks
- ◆ ~~Chemical-resistant headgear for overhead exposure~~
- ◆ Protective eyewear

MIXING THE SPRAY:

Make sure the Sprayer is CLEAN.

BETAMIX WP requires the addition of a surfactant/adjuvant for weed control. Add most of the desired water volume and start agitation. Completely suspend all desired BETAMIX WP in the water before adding surfactant/adjuvant and remaining water. Both mechanical and bypass agitation is necessary. The surfactants/adjuvants listed in the chart below were effective in the areas shown. Other surfactants/adjuvants have either not been tested or performance was not satisfactory.

Surfactant/Adjuvant	Application
SCOIL (Agsco) + COMP-AD (Simplot) (North Dakota and Minnesota)	Add COMP-AD at 1% volume/volume. Then add SCOIL at 1.5 pints/acre.
VALENT X-77 (Valent) (All states)	Add VALENT X-77 at 1% volume/volume in all states except California. In California, add VALENT X-77 at 0.5% volume/volume.
SYLGARD 309 (Dow Corning) (All states except Oregon and Idaho)	Add SYLGARD 309 at 0.4% volume/volume.
AGRI-DEX (Helena) (California)	Add AGRI-DEX at 1 quart/acre.
R-11 (Wilbur Ellis) (Oregon, Washington, and Montana)	Add R-11 at 1% volume/volume.
CROP OIL CONCENTRATE (Rigo) (Michigan and Ohio)	Add CROP OIL CONCENTRAT at 1 quart/acre.

Always spray immediately after preparing the spray solution. Prepare only enough spray solution to last less than four hours.

Incompatibilities will sometimes occur between BETAMIX WP and surfactants/adjuvants, due to conditions such as extreme water hardness or temperature. If in question, prepare a small test mixture of spray components in a clean container beforehand.

RATE OF APPLICATION

BY Ground: Apply BETAMIX WP at a rate of 1.0-1.8 lb. in 20 to 50 gallons of water per acre broadcast basis. For band application, see the dosage chart. **BE CERTAIN TO ADD AN APPROPRIATE SURFACTANT/ADJUVANT (FROM ABOVE CHART).**

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DOSAGE CHART FOR BAND APPLICATION
Band Rate (oz./acre) - Row Spacing

Broadcast Equivalent	Band Width	22"	28"	32"
0.5 lb./acre	5"	1.8	1.4	1.3
	7"	2.5	2.0	1.8
0.6 lb./acre	5"	2.2	1.7	1.5
	7"	3.1	2.4	2.1
0.7 lb./acre	5"	2.5	2.0	1.8
	7"	3.6	2.8	2.5
0.9 lb./acre	5"	3.3	2.6	2.3
	7"	4.6	3.6	3.2
1.0 lb./acre	5"	3.6	2.9	2.5
	7"	5.1	4.0	3.5
1.4 lb./acre	5"	5.1	4.0	3.5
	7"	7.1	5.6	4.9
1.8 lb./acre	5"	6.5	5.1	4.5
	7"	9.2	7.2	6.3

RATE OF APPLICATION

By Air: Apply BETAMIX WP at a rate of 1.0-1.8 b. in 5-15 gallons of spray per acre. **BE CERTAIN TO ADD AN APPROPRIATE SURFACTANT/ADJUVANT (FROM ABOVE CHART).**

To avoid excessive phytotoxicity to fall-planted sugar beets in Arizona and South of the Tehachapi Mountains in California when temperatures are above 85°F, apply BETAMIX WP at the rate of 0.9 pints per acre (broadcast equivalent). Evening applications are recommended.

For further information, contact your County Agricultural Agent, Farm Advisor or AgrEvo USA Company.

REPEAT APPLICATION OF BETAMIX WP:

For control of later germinating weeds, make a second application of BETAMIX WP. Use 1.0-1.4 lb. per acre. **BE CERTAIN TO ADD AN APPROPRIATE SURFACTANT/ADJUVANT (FROM ABOVE CHART).** Allow at least seven days between first and second applications. Apply when sugar beets have at least four leaves. For best results, use the higher rate and spray when weeds are at the two-true leaf stage. Apply lower rates when the sugar beets are under stress as explained on the left panel.

SPLIT (LOW RATE) APPLICATIONS: (All Sugar Beet Areas Except California)

Split (low rate) applications of BETAMIX WP may be applied at a rate of 0.5-0.7 lb. in 5-10 gallons of water/acre broadcast equivalent. For band applications, see the dosage chart. **BE CERTAIN TO ADD AN APPROPRIATE SURFACTANT/ADJUVANT (FROM ABOVE CHART).** BETAMIX WP may be applied to sugar beets at any stage of growth when necessary to control early germinating, difficult-to-control weeds. The first spray must be applied when the earliest emerging weeds have reached cotyledon size.

Any weeds, which are not completely controlled by the first treatment, will usually be checked and controlled by repeat applications. The following application should be made 5-7 days after the preceding application, or when another flush of weeds germinates. If the second application is delayed, conventional treatment as described above will be necessary.

SPLIT (LOW RATE) APPLICATIONS: (California)

Split applications of BETAMIX WP at 0.6-1.4 lb. per acre broadcast equivalent may be made when the sugar beets have at least two true leaves.

Use a lower rate when temperatures are above 85°F or the crop is under stress. Allow four to seven days between applications.

IMPORTANT: READ BEFORE USE

By using this product, user or buyer accepts the following conditions, warranty, disclaimer of warranties and limitations of liability.

CONDITIONS: The directions for use of this product are believed to be adequate and should be followed carefully. However, because of extreme weather and soil conditions, manner of use and other factors beyond AgrEvo USA Company's control, it is impossible for AgrEvo USA Company to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. All such risks shall be assumed by the user or buyer.

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