

264-620

3/8/2010

1/15



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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Ms. Nangy-Ly Chow, PhD  
Bayer CropScience (BCS)  
Po Box 12014, 2 T.W. Alexander Drive,  
Research Triangle Park, NC 27709

MAR 8 2010

Subject: Label Notification(s) for Pesticide Registration Notice 2007-4

Dear Registrant:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notice (PRN) 2007-4 dated January 25, 2010 for:

**EPA Registration 264-620    Betanex® Herbicide**

The Registration Division (RD) has conducted a review of this request for applicability under PRN 2007-4 and finds that the label change(s) requested falls within the scope of PRN-2007-4. The label has been date-stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact me directly at 703-305-6249 or Banza Djapao of my staff at 703-305-7269.

Sincerely,

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs



United States  
Environmental Protection Agency  
Washington, DC 20460

- Registration
- Amendment
- Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number <b>264-620</b>	2. EPA Product Manager <b>Mr. Jim Tompkins</b>	3. Proposed Classification
4. Company/Product (Name) <b>BETANEX® Herbicide</b>	<b>PM Team 25 (Registration Division)</b>	<input type="checkbox"/> None <input type="checkbox"/> Restricted
5. Name and Address of Application (Include ZIP Code) <b>Bayer CropScience (BCS) PO Box 12014, 2 Alexander Drive, Research Triangle Park, NC 27709</b>	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Check if this is a new address

### Section - II

Amendment - Explain below.       Agency letter dated \_\_\_\_\_

Resubmission in response to Agency letter dated \_\_\_\_\_       "Me Too" Application.       Other - Explain below.

Notification - Explain below.

NOTIFICATION  
MAR 8 - 2010

**Explanation:** Use additional page(s) if necessary. (Sect. I and II.):  
Submit the Application of Pesticide Notification under PR Notice 2007-4 for BETANEX Herbicide - for adding the required labelling under Container Disposal. See the cover letter for the required certified statements

**1. Material This Product Will Be Packaged In:**

Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes", Unit Packaging wgt.      No. per container	If "Yes" Package wgt      No. per container

3. Location of Net Contents Information  
 Label     Container

4. Size(s) Retail Container -  
**2.5 Gallon**

5. Location of Label Directions  
 On Label  
 On Labeling accompanying product

6. Manner in Which Label is Affixed to Product  
 Lithograph     Other \_\_\_\_\_  
 Paper glued     Stenciled

### Section - IV

**1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)**

Name <b>Nang-Ly Chow, Ph.D.</b>	Title <b>Registration Manager</b>	Phone: 919-549-2147; Fax: 919-549-2545
------------------------------------	--------------------------------------	-------------------------------------------

**Certification**  
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

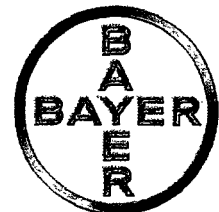
2. Signature  
*Nang-Ly Chow*

3. Title:  
**Registration Manager**

4. Typed Name: **Nang-Ly Chow, Ph.D.**

5. Date: **January 25, 2010**

6. Date Application Received  
**(Stamped)**  
EPA Form 8570-1 (Rev. 8-94)  
DI Form 8570-1 - doc



# Bayer CropScience

January 25, 2010

Document Processing Desk (NOTIF)  
Office of Pesticide Program (H7504P)  
U.S. EPA, Room S4900  
One Potomac Yard  
Arlington, VA 22202 -4525

ATTN: Mr. James Tompkins (PM 25)  
Registration Division (7505P)

Subject: BETANEX® Herbicide (Reg. No.: 264-620): Submission of the Application  
of Pesticide Notification for Compliance with PR Notice 2007-4

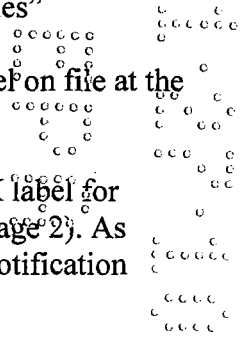
Dear Mr. Tompkins:

Bayer CropScience herein submits the NOTIFICATION application for the BETANEX Herbicide (Reg. No.: 264-620), an Emulsifier Concentrate formulation containing desmedipham as the active ingredient. The Notification is to comply with the label language required by the Final Rule "Pesticide Management and Disposal; Standards for Pesticide Container & Containment" (August 16, 2006). Based on the Guidance issued under the PR Notice 2007-4 and the product-specific information, we added the below "Container Disposal" labeling:

- "Non refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: empty remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or 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. Then puncture and dispose of in a sanitary landfill; or by other procedures approved by State and local authorities"

The Notification is based on the most current BETANEX Herbicide label on file at the Agency (EPA approved label of 25-March-2008).

Enclosed are the EPA Form 8570-1, one copy of the revised BETANEX label for approval, where the revised/new text is under Container Disposal (see page 2). As required, we provide below the certification statements to support the Notification application.

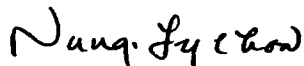


BETANEX Herbicide  
Notification PRN 2007-4  
January 25, 2010  
Page 2

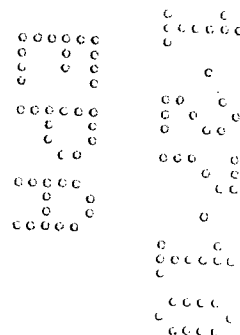
“Notification of label change per PR Notice 2007-4: This notification is consistent with the guidance in PR Notice 2007-4 and the requirements of EPA’s regulations at 40 CFR §156.10, 156.140, 156.144, 156.146 and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 U.S.C. Section 1001 to willfully make any false statement to EPA. I further understand that if the amended label is not consistent with the requirements of 40 CFR §156.10, 156.140, 156.144, 156.146 and 156.156, this product may be in violation of FIFRA and I may be subjected to enforcement action and penalties under Section 12 and 14 of FIFRA”.

We thank the Agency for approving the Notification and provide us a confirmation. Please contact me at [nang-ly.chow@bayercropscience.com](mailto:nang-ly.chow@bayercropscience.com) or via phone at 919-549-2147 if you should have further questions.

Sincerely,



Nang-Ly Chow, Ph.D.  
Registration Manager  
With Enclosure  
NOTIFICATION - 25-JAN-2010



515

**NOTIFICATION**



**Bayer CropScience**

# Betanex® Herbicide

**MAR 8 - 2010**

## FOR AGRICULTURAL USE ONLY

Postemergence Herbicide for Control of Redroot Pigweed and Other Weeds in Sugar Beets, Red Beets and Spinach

ACTIVE INGREDIENT: Desmedipham\* ..... 16.0%

INERT INGREDIENTS: ..... 84.0%

Contains 1.3 lbs. active ingredient per gallon. **Total 100.0%**

This product contains the toxic inert ingredient isophorone.

\* CAS Number: 13684-56-5

EPA Reg No. 264-620

EPA Est. No. 407-IA-02

## KEEP OUT OF REACH OF CHILDREN

## CAUTION

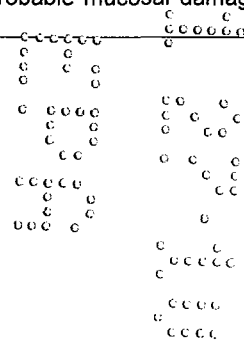
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand this label, find someone to explain it to you in detail.)

For MEDICAL And TRANSPORTATION Emergencies ONLY Call 24 Hours A Day 1-800-334-7577

For PRODUCT USE Information Call 1-866-99BAYER (1-866-992-2937)

### FIRST AID

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p align="center"><b>For MEDICAL Emergencies Call 24 Hours A Day 1-800-334-7577.</b></p> <p align="center"><b>Have the product container or label with you when calling a poison control center or doctor or going for treatment.</b></p>	
<p><b>NOTE TO PHYSICIAN:</b> Please have your medical staff confirm recommendation of gastric lavage. Probable mucosal damage may contraindicate the use of gastric lavage.</p>	



## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Avoid contamination of food and feedstuffs.

#### 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 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 butyl rubber >13 mils, nitrile rubber >13 mils, or Viton® >11 mils
- Shoes plus socks
- Protective eyewear

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### 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.

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as practical, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

THIS PRODUCT IS TOXIC TO FISH. 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 WHERE RUNOFF IS LIKELY TO OCCUR. DO NOT APPLY WHEN WEATHER CONDITIONS FAVOR DRIFT FROM AREAS TREATED. DO NOT CONTAMINATE WATER WHEN CLEANING EQUIPMENT OR DISPOSING OF EQUIPMENT WASHWATERS.

#### PHYSICAL OR CHEMICAL HAZARDS

DO NOT USE OR STORE NEAR HEAT OR OPEN FLAME.

#### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container and keep closed. Store in a cool, dry place. Do not use or store near heat or open flame.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. 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:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or 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. Then puncture and dispose of in a sanitary landfill; or by other procedures approved by State and local authorities.

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

### GENERAL INFORMATION

When used as directed, BETANEX® Herbicide is selective against weeds in sugar beets, red (table) beets and spinach. Follow label directions carefully to avoid severe injury to labeled crops. For best results, spray weeds in the cotyledon stage which are actively growing and are not under water or heat stress. BETANEX® Herbicide will control the following weeds:

- Annual sowthistle ..... *Sonchus oleraceus*
- Black nightshade ..... *Solanum nigrum*
- Hairy nightshade ..... *Solanum sarrachoides*
- Coast fiddleneck ..... *Amsinckia intermedia*
- Common chickweed ..... *Stellaria media*
- Common lambsquarters ..... *Chenopodium album*
- Common ragweed ..... *Ambrosia artemisiifolia*
- Groundcherry ..... *Physalis lanceifolia*
- London rocket ..... *Sisymbrium irio*
- Mapleleaf goosefoot ..... *Chenopodium simplex*
- Narrowleaf lambsquarters ..... *Chenopodium dessicatum*
- Nettleleaf goosefoot ..... *Chenopodium murale*
- Palmer amaranth ..... *Amaranthus palmeri*
- Powell amaranth ..... *Amaranthus powellii*
- Prostrate pigweed ..... *Amaranthus gracizans*
- Purslane ..... *Portulaca oleracea*
- Redroot pigweed ..... *Amaranthus retroflexus*
- Shepherdspurse ..... *Capsella bursa-pastoris*
- Smooth pigweed ..... *Amaranthus hybridus*
- Tall waterhemp ..... *Amaranthus tuberculatus*
- Wild buckwheat ..... *Polygonum convolvulus*
- Wild mustard ..... *Brassica kaber*

## GENERAL PRECAUTIONS AND RESTRICTIONS

DO NOT APPLY BETANEX® HERBICIDE TO SUGAR BEETS LATER THAN 75 DAYS PRIOR TO HARVEST.

DO NOT APPLY BETANEX® HERBICIDE TO SPINACH LATER THAN 21 DAYS PRIOR TO HARVEST.

DO NOT APPLY BETANEX HERBICIDE TO RED BEETS LATER THAN 14 DAYS PRIOR TO HARVEST OF BEET TOPS, AND NOT LATER THAN 50 DAYS PRIOR TO HARVEST OF BEET ROOTS.

DO NOT EXCEED A TOTAL OF 1.95 LBS A.I. DESMEDIPHAM (12 PINTS BETANEX®) PER ACRE PER SEASON FOR SUGAR BEETS.

DO NOT EXCEED A TOTAL OF 1.13 LBS A.I. DESMEDIPHAM (7 PINTS BETANEX®) PER ACRE PER SEASON FOR RED (TABLE) BEETS.

DO NOT EXCEED A TOTAL OF 1.0 LBS A.I. DESMEDIPHAM (6 PINTS BETANEX®) PER ACRE PER SEASON FOR SPINACH.

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.

BETANEX® 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 (80°F or over) bright days. When the air temperature is, or is likely to be, above 80°F on the day of spraying, application should be made in the late afternoon when the temperature is decreasing
- Frost within 3 days prior to application or 7 days following treatment
- Windy conditions, saturated soils, drought or other adverse conditions
- Use of a preplant or preemergence herbicide or other chemicals
- Insect or disease injury
- Close cultivation

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

**IMPORTANT:** BETANEX® Herbicide may cause temporary growth retardation and/or chlorosis or tipburn on sugar beets or red beets. Sugar beets usually resume normal growth within 10 days.

The use of higher than recommended rates may cause beet injury and/or carry over problems when tank mixed with Nortron® SC Herbicide.

Applications made when excess dew is present may reduce weed control.

Rainfall or sprinkler irrigation within 6 hours of spraying may reduce weed control.

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

## 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.

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

### 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 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 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 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 downwind. 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 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must 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.

**Sensitive Areas**

The pesticide must 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, nontarget crops) is minimal (e.g., when wind is blowing away from sensitive areas).

**MIXING THE SPRAY:**

**MAKE SURE THE SPRAYER IS CLEAN.**

BETANEX® emulsifiable concentrate formulation contains sufficient wetting agents for optimum coverage. Add sufficient water to fill the lines, then add the desired amount of BETANEX® Herbicide and the remaining quantity of water with the bypass agitator running. Bypass agitation is sufficient; mechanical agitation is not necessary. Only use freshly prepared spray emulsions.

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

## RATES OF APPLICATION- SUGAR BEET

### MULTIPLE (LOW RATE) APPLICATIONS (ALL SUGAR BEET AREAS EXCEPT CALIFORNIA):

Multiple (low rate) applications of BETANEX® Herbicide may be applied by air or ground to sugar beets to control early germinating weeds. The first application must be applied when the earliest emerging weeds have reached cotyledon size. See *Chart 1* for broadcast rates. For broadcast applications with ground equipment, apply in 10 to 20 gallons of water per acre. Use 5 to 15 gallons of water per acre with aerial application. See *Chart 2* for equivalent band rates. Any weeds which are not completely controlled by the first treatment will usually be checked and controlled by repeat applications. The repeat application should be made 5 to 7 days after the preceding application, or when another flush of weeds germinates. If the second application is delayed, conventional treatment will be necessary; see Conventional Applications.

To avoid excessive phytotoxicity to fall-planted sugar beets south of the Tehachapi Mountains in California when temperatures are above 85°F, apply BETANEX® at the rate of 1 pint per acre (broadcast equivalent). Evening applications are recommended.

BETANEX® Herbicide applied postemergence in a tank mix with NORTRON SC Herbicide (see *Chart 3*) broadens and enhances the control of troublesome weeds. In addition, it provides control of Ladysthumb (*Polygonum persicaria*) and Pennsylvania smartweed (*Polygonum pennsylvanicum*).

For further information, contact your County Agricultural Agent, Farm Advisor or Bayer CropScience.

### CHART 1

#### DOSAGE CHART FOR MULTIPLE (LOW RATE) BROADCAST APPLICATIONS

Weed Stage*	Pints/Acre Broadcast		
	BETANEX® ALONE	BETANEX® + NORTRON SC	
Cotyledon	1.5-3.0	1.5	+ 0.25
2 leaf	2.0-3.0	2.0	+ 0.33
4 leaf	3.0-4.5	3.0	+ 0.5

\*Applications should begin at the cotyledon stage of the weeds.

\*Higher dosage rates could be required, depending on the advancement of the weed stage.

\*Early two true-leaf sugar beets tend to be the most susceptible to phytotoxicity.

### CHART 2

#### BETANEX® DOSAGE CHART FOR BAND APPLICATION

Broadcast Equivalent	Band Width	Band Rate — Row Spacing (fluid ounces)			
		22"	24"	28"	30"
1.50 pints/acre	7"	7.6	7.0	6.0	5.6
	11"	12.1	11.0	9.5	8.8
2.0 pints/acre	7"	10.2	9.3	8.0	7.5
	11"	16.1	14.7	12.5	11.7
3.0 pints/acre	7"	15.3	14.0	12.0	11.2
	11"	24.0	22.0	18.9	17.6
4.5 pints/acre	7"	22.9	21.0	18.0	16.8
	11"	36.1	33.0	28.4	26.4
6.0 pints/acre	7"	30.5	28.0	24.0	22.4
	11"	48.0	44.0	37.6	35.2
7.5 pints/acre	7"	38.2	35.0	30.0	28.0
	11"	60.0	55.0	47.1	44.0

**CHART 3**

**NORTRON SC DOSAGE CHART FOR MULTIPLE (LOW RATE) BAND APPLICATIONS**

Broadcast Equivalent	Band Width	Band Rate — Row Spacing (fluid ounces)			
		22"	24"	28"	30"
0.25 pints/acre	7"	1.3	1.2	1.0	0.9
	11"	2.0	1.8	1.5	1.4
0.33 pints/acre	7"	1.7	1.5	1.3	1.2
	11"	2.6	2.4	2.0	1.9
0.5 pints/acre	7"	2.5	2.3	2.0	1.9
	11"	3.9	3.7	3.1	3.0

**CONVENTIONAL APPLICATIONS**

**By Ground:** Apply BETANEX® Herbicide at the rate of 4.5 to 7.5 pints per acre in 10 to 20 gallons of water broadcast basis. For band application, see *Chart 2*.

**By Air:** Apply BETANEX® Herbicide at the rate of 4.5 to 7.5 pints per acre using 5 to 15 gallons of spray per acre.

Apply the 4.5 to 7.5 pint rates only to sugar beets past the two true-leaf stage. Use the 7.5-pint rate only on well-established sugar beets which are not under stress. 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 or smaller, are actively growing and are not under water or heat stress.

In order to avoid phytotoxic spray drift to nontarget crops during application of BETANEX®, the following buffer zones must be observed:

- Cotton, Potatoes, Sunflowers, Sorghum, Wheat ..... 50 feet
- Blackeye beans, Cabbage, Flax ..... 100 feet
- Lettuce, Rape, Tomatoes ..... 300 feet

**AVOID APPLICATIONS WHEN CONDITIONS FAVOR DRIFT.**

**REPEAT APPLICATION OF BETANEX®:** For control of later germinating weeds, make a second application of BETANEX® Herbicide; use 4.5 to 6 pints of BETANEX®. Allow at least 7 days between first and second applications. Apply when sugar beets have at least 4 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 in the Use Precautions section.

**TANK MIX COMBINATIONS**

When tank mixing, read and follow the label for each tank mix product used for precautionary statements, directions for use, weeds controlled, geographic, and other restrictions. Use in accordance with the most restrictive of label limitations and precautions. No label dosage should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing.

## MICRO-RATE APPLICATIONS (EXCEPT CALIFORNIA)

Multiple Micro-rate applications of Betanex® Herbicide in tank mixtures with reduced rates of UpBeet™, Stinger®, and modified seed oils may be applied by air or ground equipment to sugar beets to control early germinating weeds.

Favorable climatic conditions (good conditions for plant growth and development) are essential for adequate weed control.

**CHART 4**  
**DOSAGE CHART FOR MULTIPLE MICRO-RATE BROADCAST APPLICATIONS**

Sugar Beet Stage	Betanex® Fluid Ounces/Acre Broadcast
Cotyledon to 4-leaf <sup>(1)</sup>	8.0-12.0 (0.08-0.12 lb a.i./A)
4-Leaf	12.0-16.0 (0.12-0.16 lb a.i./A)
4-Leaf or greater <sup>(2)</sup>	16.0 – 22.0 (0.16-0.22 lb a.i./A)

- (1) Caution should be considered when using higher rates and when sugarbeets are in the early 2-leaf stage of growth because injury can occur.
- (2) When air temperature is, or is likely to be, above 80°F on the day of spraying, application should be made in the late afternoon when the temperature is decreasing.

Application of Betanex® Herbicide in broadcast applications is strongly recommended. If band applications are used, do not use less than 11-inch bands.

For broadcast applications of Betanex® with selected tank mix partners, apply in 10 to 20 gallons of water per acre for ground application, or 5 to 15 gallons of water per acre for aerial application. Use the minimum rate recommended on the tank mix partner label, or a reduced rate of the tank mix partner(s), at the discretion of the grower or applicator, as permitted under FIFRA. [Minimum label rate for UpBeet is 0.5 oz/acre; for Stinger, 4.0 fl oz/acre.]

Use modified seed oils at a finished spray concentration of 1.5% v/v or a minimum of 1 pt/acre. A minimum of three sequential applications should be used. Accurate timing is essential; make initial application immediately after weeds emerge, and make repeat applications on 5- to 7-day intervals. If weed control is not adequate due to climatic conditions, spray coverage or other factors, return to multiple (low rate) applications.

Betanex® Herbicide can be mixed with UpBeet, Stinger, and modified seed oils for use on sugar beets in accordance with the most restrictive label limitations and precautions. No label dosage rates should be exceeded. Betanex® Herbicide cannot be mixed with any product containing a label prohibition against such mixing.

Fungicides or insecticides can be tank mixed with Betanex® plus UpBeet plus Stinger plus methylated seed oils, however, do not combine both fungicides and insecticides with micro-rate mixtures.

### MIXING INSTRUCTIONS FOR MICRO-RATE MULTIPLE APPLICATIONS OF BETANEX®

1. Start with a clean spray tank.
2. Fill spray tank with one-third of the total amount of clean water needed for application and start gentle agitation.
3. Slurry UpBeet in water before adding to spray tank, then add slurried UpBeet to spray tank.
4. Fill spray tank to two-thirds of the total amount of clean water needed for the application.
5. Add Betanex® followed by Stinger, then modified seed oil.
6. Add remaining amount of water while continuing gentle agitation. Spray immediately. Spray mixture should not remain in spray tank overnight.

### USE PRECAUTIONS FOR MICRO-RATE APPLICATIONS

Not all weeds will be adequately controlled, even with favorable climatic conditions. Micro-rate applications of Betanex® mixed with UpBeet and Stinger will not control ALS-resistant kochia. Multiple low rates of Betanex® and/or hand labor may be required if multiple micro-rate applications do not adequately control weeds.

Multiple micro-rate applications may injure sugar beets if climatic conditions rapidly change from cool, wet, overcast days to bright sunny days. Plugging of spray nozzles may be encountered due to the potential formation of a precipitate in the spray solution that is often associated with micro-rate applications. To minimize potential formation of precipitate, start with a clean spray system, use warm spray water for mixing, completely empty spray solution from each tank load, flush tank and lines between loads with fresh water, never leave diluted spray solution in tank overnight, and/or add ammonia (2% household) at 1% v/v or a basic blend additive at 1% v/v. DO NOT apply micro-rate treatments when conditions are favorable for drift to nontarget species.

**CHART 5**  
**MULTIPLE ENHANCED LOW RATE BROADCAST APPLICATION PLUS NORTRON® HERBICIDE**

Fluid Ounces/Acre Broadcast		
Sugar Beet Stage	Betanex® Herbicide	Nortron® SC Herbicide **
Cotyledon to 4-leaf	8.0 – 12.0 (0.08-0.12 lb a.i./A)	2.0 to 4.0 (0.06 - 0.12 lb a.i./A)
4-leaf *	12.0 – 22.0 (0.12-0.22 lb a.i./A)	2.0 to 4.0 (0.06-0.12 lb a.i./A)

\* Rate can be increased when the smallest sugar beet plants in the field are in the 4-true leaf stage or larger.

\*\* Do not exceed 0.375 lb a.i. ethofumesate (12 fluid oz. of Nortron® SC) per acre per growing season.

**RATES OF APPLICATION – RED (TABLE) BEET**

When applying to red (table) beet BETANEX® emulsifiable concentrate formulation contains sufficient wetting agents for optimum coverage. Do not add additional wetting agents or other spray adjuvants when applying to red beets.

**By Ground:** Multiple applications of BETANEX® Herbicide may be applied by ground to red (table) beets to control early germinating weeds. The first application must be applied when the red (table) beets have reached the 2-leaf stage. See *Chart 1* for broadcast rates. For broadcast applications with ground equipment, apply in 10 to 20 gallons of water per acre. Use 5 to 10 gallons of water per acre with band applications. See *Chart 2* for equivalent band rates. Any weeds which are not completely controlled by the first treatment will usually be checked or controlled by repeat applications. The repeat application should be made 5 to 7 days after the preceding application, or when another flush of weeds germinates. A maximum of three (3) applications is allowed.

For further information, contact your County Agricultural Agent, Farm Advisor or Bayer CropScience.

**USE PRECAUTIONS**

The preharvest interval is 14 days for red beet tops and 50 days for red beet roots.

For red beets, leave a 16 feet buffer from the application area when the wind direction is toward sensitive dicot plants.

**CHART 6**  
**DOSAGE CHART FOR BROADCAST APPLICATION**

Red (Table) Beet Stage	Pints/Acre Broadcast	
	BETANEX® Herbicide	
2 leaf	1.5	
4 leaf	1.5-2.3	
6 leaf	1.5-3.0	

**CHART 7**  
**BETANEX® DOSAGE CHART FOR BAND APPLICATION**

Broadcast Equivalent	Band Width	Band Rate — Row Spacing (fluid ounces)			
		22"	24"	28"	30"
1.50 pints/acre	5"	5.5	5.0	4.3	4.0
	7"	7.6	7.0	6.0	5.6
	11"	12.1	11.0	9.5	8.8
2.0 pints/acre	5"	7.3	6.7	5.7	5.3
	7"	10.2	9.3	8.0	7.5
	11"	16.1	14.7	12.5	11.7
3.0 pints/acre	5"	10.9	10.0	8.6	8.0
	7"	15.3	14.0	12.0	11.2
	11"	24.0	22.0	18.9	17.6

## DIRECTIONS FOR USE - SPINACH

### GENERAL INFORMATION

Note: Use BETANEX® Herbicide on spinach only when temperatures are below 75°F in order to prevent possible injury. BETANEX® is effective for control of the following weeds:

- Wild mustard ..... *Brassica kaber*
- Common lambsquarters ..... *Chenopodium album*
- Shepherdspurse ..... *Capsella bursa-pastoris*
- London rocket ..... *Sisymbrium irio*
- Nettleleaf goosefoot ..... *Chenopodium murale*
- Groundcherry ..... *Physalis lanceifolia*
- Coast fiddleneck ..... *Amsinckia intermedia*
- Common chickweed ..... *Stellaria media*
- Purslane ..... *Portulaca oleracea*
- Common ragweed ..... *Ambrosia artemisiifolia*
- Annual sowthistle ..... *Sonchus oleraceus*

For best results, spray when the weeds are at the two-leaf stage.

### USE PRECAUTIONS

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.

DO NOT APPLY BETANEX® TO SPINACH LATER THAN 21 DAYS PRIOR TO HARVEST.

For spinach, leave a 16 feet buffer from the application area when the wind direction is toward sensitive dicot plants.

BETANEX® MAY CAUSE INJURY IF THE CROP IS UNDER STRESS FROM ONE OR MORE OF THE FOLLOWING CONDITIONS:

- Rapid climatic changes from cool, overcast days, to hot (75°F or over), bright days. Windy conditions or drought
- Use of a preplant or preemergence herbicide or other chemicals
- Insect or disease injury
- Close cultivation

BETANEX® may be applied to spinach, however, the user assumes responsibility for such use. Not all cultivars/varieties have been tested for sensitivity to BETANEX®. Any plant injury arising from the use of BETANEX® on spinach is the responsibility of the user.

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

If extreme weather conditions are of short duration, delay spraying until the end of such a period.

If BETANEX® 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 injury.

Do not spray while dew is present.

Rainfall within 6 hours of spraying may reduce weed kill. Do not allow spray drift to contact adjacent crops which may be injured by spray drift.

### IMPORTANT

BETANEX® Herbicide may cause temporary growth retardation and/or chlorosis or tip-burn. Crops usually resume normal growth within 10 days. Short season cultivars grown for the fresh market may not have sufficient time to recover.

Crops may be severely injured if treated before the 4 to 6 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.

MIXING THE SPRAY: MAKE SURE THE SPRAYER IS CLEAN.

BETANEX® is an emulsifiable concentrate. The formulation contains sufficient wetting agents for optimum coverage on spinach. Do not add additional wetting agents or other spray adjuvants when applying to spinach. Add sufficient water to fill the lines. Then add the desired amount of BETANEX® and the remaining quantity of water with the bypass agitator running. Bypass agitation is sufficient. Mechanical agitation is not necessary. Only use freshly prepared spray emulsions.

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

**RATE OF APPLICATION**

- **By Ground:** Apply BETANEX® at the rate of 2 to 4 pints per acre (0.33 to 0.67 lb a.i./A ) per application in 10 to 40 gallons of water broadcast basis. TOO MUCH WATER MAY CAUSE PRECIPITATION.

Use a maximum of 6 pints per acre per year. A split application of 2 1/2 to 3 pints at the 2-leaf stage of spinach followed by a repeat application of 3 pints, 4 to 6 days later may be used.

Do not apply to spinach later than 21 days prior to harvest. Avoid phytotoxic spray drift to nontarget crops during application of BETANEX®.

**IMPORTANT: READ BEFORE USE**

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

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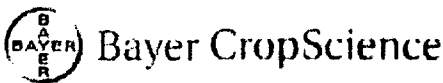
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**NET CONTENT: 2.5 GALLONS**

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Bayer CropScience LP  
P.O. Box 12014, 2 T.W. Alexander Drive  
Research Triangle Park, North Carolina 27709  
1-866-99BAYER (1-866-992-2937)  
<http://www.bayercropscienceus.com>

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