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42750-52

11/08/99

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U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (7505C)  
401 "M" St., S.W.  
Washington, D.C. 20460

EPA Reg. Number:  
42750-52

Date of Issuance:  
NOV 8 1999

NOTICE OF PESTICIDE:  
 X  Registration  
— Reregistration

Term of Issuance:  
Conditional

Name of Pesticide Product:  
BROX-M Herbicide

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Albaugh, Inc.  
121 NE 18<sup>th</sup> Street  
Ankeny, IA 50021

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

2. Make the following label changes before you release the product for shipment:

a. Revise the EPA Registration Number to read, "EPA Reg. No. 42750-52".

Signature of Approving Official:

Date:

NOV 8 1999

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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3. Submit a revised Confidential Statement of Formula and include the appropriate pH value in block #8.

4. Within one (1) year of the date of this Notice, provide data to satisfy guideline reference 830.6315 (flammability), guideline reference 830.6317 (storage stability), and guideline reference 830.6320 (corrosion characteristics).

5. Submit one copy of the revised final printed label for the record before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

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

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

Enclosure

DK:305-7546:HB/PM23		CONCURRENCES						
SYMBOL	7505C							
SURNAME	D. KENNY							
DATE	10/29/99							

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ACCEPTED  
with COMMENTS  
In EPA Letter Dated

NOV 8 1999

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

# BROX-M Herbicide

**FOR CONTROL OF CERTAIN BROADLEAF WEEDS IN SMALL GRAINS (WHEAT, BARLEY,  
OATS AND RYE), CONSERVATION RESERVE PROGRAM (CRP) AREAS, GRASSES GROWN  
FOR SEED PRODUCTION AND FLAX**

**ACTIVE INGREDIENTS:**

2-Ethylhexyl ester of 2-methyl-chlorophenoxyacetic acid* . . . . .	34.0%
Octanoic acid ester of bromoxynil** (3,5-dibromo-4-hydroxybenzotrile) . . . . .	31.7%
<b>OTHER INGREDIENTS***:</b> . . . . .	34.3%
<b>TOTAL</b>	<b>100.0%</b>

\*Equivalent to 21.8% 2-methyl-chlorophenoxyacetic acid or not less than 2.0 pounds acid per gallon.  
 \*\*Bromoxynil octanoate equivalent to 21.8% of bromoxynil or not less than 2.0 pounds of bromoxynil per gallon.  
 \*\*\*Contains petroleum distillates.  
 EPA Reg. No. 42750- EPA Est. No. 42750-MO-1

**KEEP OUT OF REACH OF CHILDREN**

## WARNING /AVISO

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

### STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

**NOTE TO PHYSICIAN:** This product may pose an aspiration pneumonia hazard. Contains petroleum distillate.

See additional Precautionary Statements and Directions for Use below.

**Manufactured By:**  
**Albaugh, Inc.**  
**Ankeny, Iowa 50021**

**Net Contents**  
**\_\_\_\_\_ Gals**  
**( \_\_\_\_\_ Liters)**

**FOR CHEMICAL SPILL, LEAK, FIRE OR EXPOSURE,  
CALL CHEMTREC (800)424-9300.**

EPA REC'D 10/29/99

## **PRECAUTIONARY STATEMENTS**

### **WARNING**

#### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

May be fatal if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

#### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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 resistant category selection chart.

Applicators and other handlers must wear coveralls over a long-sleeved shirt and long pants, chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber or viton gloves, a chemical resistant apron (when cleaning equipment, mixing, and loading), protective eyewear, chemical resistant headgear for overhead exposure, and chemical resistant footwear plus socks.

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. **IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

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

#### **ENGINEERING CONTROLS STATEMENTS**

If you will handle a total of 60 gallons or more of this product per day, you must use a mechanical transfer system for all mixing and loading operations. If this product is packaged in a 30 gallon drum, you must use a mechanical transfer system which terminates in a drip-free hard coupling which may be used only with a spray or mix tank which has been fitted with a compatible coupling. If you do not presently own or have access to a mechanical transfer system with this type of coupling, contact your dealer for information on how to obtain such a system or to modify your present system. When using a mechanical transfer system, do not remove or disconnect the pump or probe from the container until the container has been emptied and rinsed. The pump or probe system must be used to rinse the empty container and to transfer the rinsate directly to the mixing or spray tank.

Application from a tractor with a completely enclosed cab or aerial application is required whenever this product is applied to 360 or more acres in a day. The closed systems and enclosed cabs must be used 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.

To reduce exposure to residues, wash the spray rig, tractor, and all other equipment used to handle or apply this product with water daily or before using the equipment for any other purpose.

Application by chemigation must be done by fixed pipe, overhead sprinkler systems or hand moved pipe. If hand moved pipe is used for chemigation, the pipe must not be handled in any way until 24 hours after chemigation has been completed and residues have been flushed from the system. When applying by chemigation, no person may enter the application site unless in an enclosed vehicle.

#### **USER SAFETY RECOMMENDATIONS**

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.

#### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to wildlife and fish. Use with care when applying to areas frequented by wildlife or adjacent to any body of water. 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 drift from target areas. Do not contaminate water when disposing of equipment washwaters.

#### **PHYSICAL AND CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

#### **DIRECTIONS FOR USE**

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

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, wear: coveralls over long-sleeved shirt and long pants, socks and chemical resistant footwear, protective eyewear, and chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber or viton gloves.

**STORAGE AND DISPOSAL****Storage**

Do not contaminate water, food or feed by storage or disposal. Store at temperatures above 3° F. If allowed to freeze, remix before using.

**Pesticide Disposal**

Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

**Container Disposal**

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

**Returnable—Refillable Containers:** This material may be repackaged in 15 or 30 gallon returnable-refillable containers by a registered establishment. After use, return the container to the point of purchase or designated locations. This container must only be refilled with BROX-M. Do not reuse the container for any other purpose. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. If the container is not being refilled, return it to the point of purchase.

**GENERAL INFORMATION**

BROX-M is formulated as an emulsifiable concentrate containing the equivalent of 2 lbs. per gallon of octanoic acid ester of bromoxynil and 2 lbs. per gallon of 2-ethylhexyl ester of MCPA.

BROX-M is a selective postemergence herbicide for control of important broadleaf weeds infesting small grains (wheat, barley, oats, rye), conservation reserve program areas, and grass grown for seed. Optimum weed control is obtained when BROX-M is applied to actively growing weed seedlings. BROX-M is primarily a contact herbicide; therefore, thorough coverage of the weed seedlings is essential for optimum control.

BROX-M has little residual activity. Therefore subsequent flushes of weeds will not be controlled by the initial treatment. Generally crops that form a good canopy will help shade subsequent weed flushes. However, certain crops or short straw varieties, for example Yaccora Rojo wheat, may not develop the crop canopy fast enough to shade the subsequent flushes of weeds.

Occasional transitory leaf burn may occur. The temporary leaf burn is similar to that seen with liquid fertilizer. Because the activity of BROX-M is mainly contact, recovery of the crop is generally rapid with no lasting effect. Frequency and amount of leaf burn may be greater when crops are stressed by abrasive winds, cool to cold evening temperatures or mechanical injury, such as that caused by hail, sleet or insect feeding. To reduce the potential for temporary leaf burn, applications should be made to dry foliage in the recommended spray volumes per acre when weather conditions are not extreme.

**Precaution:** BROX-M contains low volatile 2-ethylhexyl ester of MCPA. At high air or ground surface temperatures, vapors from this product may cause injury to susceptible plants. This fact should be considered when applying the product.

### MIXING INSTRUCTIONS

#### **BROX-M Alone**

Fill the spray tank 1/2 to 3/4 full with clean water. Begin agitation and add the recommended amount of BROX-M. Add water to the spray tank to the desired level. Maintain sufficient agitation to ensure a uniform spray mixture during application.

#### **Tank Mixtures**

BROX-M can be applied in tank mixture with many other herbicides and insecticides registered for use on approved crops. Refer to the specific crop section for rate recommendations and other restrictions. To apply BROX-M in mixture with another product, fill the spray tank 1/2 to 3/4 full with clean water and begin agitation. If tank mixing with wettable powder, soluble powder, flowable or dry flowable products, add the powder or flowable product first. After the other herbicide is thoroughly mixed with water, add the recommended amount of BROX-M and water to the spray tank to the desired level. If tank mixing with other product types, add the BROX-M first before adding the other product. Always mix one product in water thoroughly before adding another product or compatibility problems may occur. Never mix two products together without first mixing in water.

Maintain sufficient agitation while mixing and during application to ensure a uniform spray mixture. If spray mixture is allowed to remain without agitation for short periods of time, be sure to agitate until uniformly mixed before application.

If tank mixing with products other than those listed within each crop section, a compatibility test is recommended to ensure satisfactory spray preparation. To test for compatibility, use a small container and mix a small amount (0.5 to 1 quart) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5 to 15 minutes after mixing. To ensure maximum crop safety and weed control, follow all cautions and limitations on this label and the labels of products used in the tank mixture with BROX-M.

#### **SPRAYABLE LIQUID FERTILIZERS AND SPRAY ADDITIVES**

BROX-M can be applied in combination with sprayable liquid fertilizer or spray additives such as surfactants or crop oil concentrate. When tank mixing with liquid fertilizer, always add the fertilizer to the spray tank first and agitate thoroughly before adding BROX-M.

Always predetermine the compatibility with liquid fertilizer by mixing small proportional quantities in advance. Agitation must be maintained during filling and application operations to ensure that BROX-M is evenly mixed with the fertilizer. Leaf burn may occur when BROX-M is applied with liquid fertilizer, but new leaves are not adversely affected.

**Precaution:** Fertilizers and spray additives can increase foliage leaf burn when applied with BROX-M. Do not apply fertilizers or spray additives with this product if leaf burn is a major concern due to environmental conditions, crop or variety sensitivity to BROX-M.

#### **APPLICATION PROCEDURES**

BROX-M can be applied to registered use areas by ground, aerial and sprinkler irrigation equipment.

## GROUND APPLICATION

Use a standard herbicide boom sprayer that provides uniform and accurate application. Sprayer should be equipped with screens no finer than 50 mesh in the nozzle tips and in-line strainers.

Select a spray volume and delivery system that will ensure thorough and uniform spray coverage. For optimum spray distribution and thorough coverage use of flat fan nozzles (maximum tip size 8008) with a spray pressure of 40-60 psi are recommended. Other nozzle types and lower spray pressures that produce coarse spray droplets may not provide adequate coverage of the weeds to ensure optimum control. Raindrop® nozzles and flood nozzles are not recommended as weed control with BROX-M may be reduced.

In general, a spray volume of 10 to 20 gallons per acre (GPA) is recommended for optimum spray coverage. A minimum of 5 GPA with a minimum spray pressure of 50 psi and a maximum ground speed of 10 mph may be used with higher speed, low volume ground application if ground terrain, crop and weed density allow effective spray distribution. When using higher speed equipment, a maximum ground speed of 10 mph is suggested if field conditions cause excessive boom movement during application which results in poor spray coverage. Ground applications made when dry, dusty field conditions exist may provide reduced weed control in wheel track areas. Applications using less than 10 gallons per acre may result in reduced weed control.

When weed infestations are heavy, use of higher spray volumes and spray pressure will be helpful in obtaining uniform weed coverage. When corn or grain sorghum are large enough to interfere with the spray pattern, drop nozzles should be used to obtain uniform weed coverage. If you are unsure of the infestation level or size of crop, consult your local extension service.

Do not apply when winds are gusty or when other conditions favor poor spray coverage and/or off target spray movement.

## AERIAL APPLICATION

During aerial application, human flaggers are prohibited unless in enclosed vehicles. Aerial application is prohibited within 300 feet of residential areas (e.g., homes, schools, hospitals, shopping areas, etc.).

Use orifice discs, cores and nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage. In general a minimum spray volume of 5 GPA and a maximum pressure of 40 psi are recommended. A minimum spray volume of 3 gallons per acre may be used if crop canopy and weed density allow adequate spray coverage. Aerial applications using less than 5 gallons of spray volume per acre may result in reduced weed control.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction 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.

The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.

Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.



Where states 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  $\frac{1}{4}$  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 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 wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided at wind speeds 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**

Applications should not occur 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 fog is not present, inversions can also be identified by observing 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 should only 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 the sensitive areas).

## **SPRINKLER IRRIGATION APPLICATION**

BROX-M can be applied through sprinkler irrigation systems to small grains.

Application by chemigation must be done by fixed pipe, overhead sprinkler systems or hand moved pipe. If hand moved pipe is used for chemigation, the pipe must not be handled in any way until 24 hours after chemigation has been completed and residues have been flushed from the system. When applying by chemigation, no person may enter the application site unless in an enclosed vehicle. Do not apply this product through any other type of irrigation system.

### **SPECIFIC REQUIREMENTS FOR APPLICATIONS THROUGH AUTOMATED SPRINKLER IRRIGATION SYSTEM**

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing, check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Agitation is recommended in the pesticide supply tank when applying.

BROX-M should be applied continuously for the duration of the water application with center pivot and continuous lateral move systems. Application of BROX-M should be made during the last 30-45 minutes of the irrigation set with other overhead sprinkler systems.

For best performance, set the sprinkler system to deliver approximately 0.5 inch or less of water per acre.

Remove scale, pesticide residues and other foreign matter from the supply tank and entire injector system.

Flush with clean water.

If BROX-M is diluted in the supply tank, fill the tank with half of the water amount desired, add the BROX-M and then add remaining water amount with agitation. Always dilute with at least 4 parts water to 1 part BROX-M.

Start the sprinklers and then inject BROX-M into the irrigation line. BROX-M should be injected with a positive displacement pump into the main line at least 8 feet ahead of a right angle turn to insure adequate mixing. Refer to the BROX-M label for detailed information on application rates and timings.

#### **CHEMIGATION USER PRECAUTIONS**

Application of more than 0.5 inch/acre of irrigation water may result in decreased product performance on certain soils.

Do not apply when conditions favor drift, when system connections or fittings leak, or when nozzles do not provide uniform distribution.

Allow sufficient time for pesticide to be flushed through all the lines and nozzles before turning off irrigation water.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

Do not connect an irrigation system used for pesticide application to a public water system.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

### GENERAL WEED LIST

Postemergence application of BROX-M will control the following weeds when sprayed in the seedling stage. Maximum weed stage of growth is listed under BROX-M recommendations.

#### MOST SUSCEPTIBLE BROADLEAF WEED SPECIES

Annual Sowthistle ( <i>Sonchus oleraceus</i> )	London Rocket ( <i>Sisymbrium irio</i> )
Black Mustard ( <i>Brassica nigra</i> )	Marshelder ( <i>Iva xanthifolia</i> )
Black Nightshade ( <i>Solanum nigrum</i> )	Pennsylvania Smartweed ( <i>Polygonum strumarium</i> )
Common Cocklebur ( <i>Xanthium strumarium</i> )	Pepperweed spp. ( <i>Lepidium</i> spp.)
Common Lambsquarters ( <i>Chenopodium album</i> )	Redroot Pigweed ( <i>Amaranthus retroflexus</i> )
Common Tarweed ( <i>Hemizonia Congesta</i> )	Russian Thistle ( <i>Salsola kali</i> )
Cow Cockle ( <i>Saponaria vaccaria</i> )	Shepherdspurse ( <i>Capsella bursa-pastoris</i> )
Cutleaf Nightshade ( <i>Solanum triflorum</i> )	Silverleaf Nightshade ( <i>Solanum elaeagnifolium</i> )
Eastern Black Nightshade ( <i>Solanum ptycanthum</i> )	Smooth Pigweed ( <i>Amaranthus hybridus</i> )
Coast Fiddleneck ( <i>Amsinckia intermedia</i> )	Spiny Pigweed ( <i>Amaranthus spinosus</i> )
Field Pennycress ( <i>Thlaspi arvense</i> )	Sunflower <sup>1</sup> ( <i>Helianthus annuus</i> )
Green Smartweed ( <i>Polygonum scabrum</i> )	Tall Waterhemp ( <i>Amaranthus tubersulatus</i> )
Hairy Nightshade ( <i>Solanum sarachoides</i> )	Tartary Buckwheat ( <i>Fagopyrum tataricum</i> )
Horned Poppy ( <i>Glaucium comiculatum</i> )	Tumble Mustard ( <i>Sisymbrium altissimum</i> )
Jimsonweed ( <i>Datura stramonium</i> )	Wild Buckwheat ( <i>Polygonum convolvulus</i> )
Ladythumb ( <i>Polygonum persicaria</i> )	Wild Mustard ( <i>Sinapis arvensis</i> )
Lanceleaf sage ( <i>Salvia reflexa</i> )	Yellow Rocket ( <i>Barbarea vulgaris</i> )

<sup>1</sup>For control of sunflower, delay application until first sunflower seedlings are 4 inches in height.

#### SUSCEPTIBLE BROADLEAF WEED SPECIES<sup>1</sup>

Blue (purple) Mustard ( <i>Chlorispora tenella</i> )	Knawel ( <i>Scleranthus annuus</i> )
Common Groundsel ( <i>Senecio vulgaris</i> )	Kochia ( <i>Kochia scoparia</i> )
Common Ragweed ( <i>Ambrosia artemisiifolia</i> )	Mayweed ( <i>Anthemis cotula</i> )
Corn Chamomile ( <i>Anthemis arvensis</i> )	Prostrate Knotweed ( <i>Polygonum aviculare</i> )
Corn Gromwell ( <i>Lithospermum arvense</i> )	Puncture Vine ( <i>Tribulus terrestris</i> )
Fumitory ( <i>Fumaria officinalis</i> )	Tall Morningglory ( <i>Ipomoea purpurea</i> )
Giant Ragweed ( <i>Ambrosia trifida</i> )	Tansy Mustard ( <i>Descurainia pinnata</i> )
Hemp Sesbania ( <i>Sesbania exaltata</i> )	Tarweed ( <i>Hemizonia</i> spp.)
Henbit ( <i>Lamium amplexicaule</i> )	Velvetleaf ( <i>Abutilon theophrasti</i> )
Ivyleaf Morningglory ( <i>Ipomoea hederacea</i> )	Wild Radish ( <i>Raphanus raphanistrum</i> )

<sup>1</sup>Weeds germinating after spraying will not be controlled.

#### WEED SUPPRESSION

Canada Thistle (*Cirsium arvense*): BROX-M applied at 1 1/2 pints per acre provides burn down of top growth. Regrowth may occur. Make applications when Canada thistle is 8 inches tall to the bud stage.

**WHEAT, BARLEY, OATS AND RYE**

**BROX-M RECOMMENDATIONS**

		<b>APPLICATION TIMING AND SPECIFIC COMMENTS</b>	
<b>PRODUCT</b>	<b>RATE</b>	<b>CROP</b>	<b>WEEDS</b>
BROX-M	1 pint/A	Fall seeded wheat, barley, oats, and rye throughout the United States and spring seeded wheat, barley, oats and rye in Idaho, Oregon, Washington, Colorado, Wyoming and Montana.  Apply to wheat, barley, oats and rye from the 3 leaf stage but before the crop reaches the boot stage.	Most Susceptible Broadleaf Weeds: Apply to weeds up to the 8 leaf stage or 4 inches in height, whichever comes first. If weed forms rosette, apply before weeds exceed 2 inches in diameter.
	1 1/2-2 pints/A		Susceptible Broadleaf Weeds: Apply to weeds up to the 4 leaf stage or 2 inches in height, whichever comes first. If weed forms rosette, apply before weeds exceed 1 inch in diameter.
	2 pints/A		Apply to henbit, knawel and mayweed up to the 4 leaf stage or 2 inches in height, whichever comes first. Apply to kochia and tansy mustard for improved control when these weeds exceed the recommended stage of growth or are growing under cool, dry conditions.
	1-1 1/2 pints/A	Spring seeded wheat and barley except Idaho, Oregon, Washington, Colorado, Montana, and Wyoming. Apply to wheat, barley, oats and rye from the 3 leaf stage but before the crop reaches the boot stage.	Most Susceptible and Susceptible Broadleaf Weeds: Apply to weeds that do not exceed the 8 leaf stage or 4 inches in height, whichever comes first. If weed forms rosette, apply before weeds exceed 2 inches in diameter. Apply to kochia up to 2 inches in height.
	1 1/2-2 pints/A	Spring seeded wheat and barley except Idaho, Oregon, Washington, Colorado, Montana and Wyoming. Apply to wheat, barley, oats and rye from the 3 leaf stage but before the crop reaches the boot stage.	Apply to kochia that is 2-4 inches in height.

PRODUCT	RATE	CROP	WEEDS
BROX-M	Chemigation Only 2 pints/A	Apply to wheat, barley, oats and rye from the 3 leaf stage but before the boot stage. Apply through automated sprinkler irrigation systems with mechanical transfer loading system only. See Engineering Controls Statements section for details.	Apply to Most Susceptible and Susceptible broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.
BROX-M	Post-Harvest 3/4-2 pints/A	Make applications following harvest of wheat, barley, oats and rye in the states of North Dakota, South Dakota, Minnesota, and Montana. Do not plant any rotational crop until the following use season.	Apply 3/4 to 1 pint/A to Most Susceptible Broadleaf Weeds up to the 8 leaf stage or 4 inches in height, whichever comes first. Apply 1 1/2 to 2 pints/A to Susceptible Broadleaf Weeds up to the 4 leaf stage or 2 inches in height, whichever comes first. For control of both grasses and broadleaf weeds, tank mix BROX-M with Roundup® or Roundup® + 2,4-D.
BROX-M + MCPA ester	3/4-2 pints/A + 1/4-1/2 pint/A	Apply to spring seeded wheat, barley, oats and rye from tillering stage but before boot stage.	For control of Most Susceptible and Susceptible weeds and improved control of redroot pigweed and kochia, apply to weeds up to the 8 leaf stage, 3 inches in height or 2 inches in diameter, whichever comes first. Apply to kochia and redroot pigweed up to 2 inches in height or diameter.
BROX-M + Glean® + nonionic surfactant	3/4-1 1/2 pints/A + 1/6-1/3 oz/A + 1 qt/100 gal of water	Apply to wheat and barley from the 3 leaf stage but before the crop reaches the boot stage. Refer to Glean® label for crop rotation and other restrictions.	This tank mix improves control of broadleaf weeds such as henbit, tansy mustard and chickweed. Apply to weeds up to 8 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first.
BROX-M + Finesse® + nonionic surfactant	3/4-1 1/2 pints/A + 1/6 -1/3 oz/A + 1 qt/100 gal of water	Apply to wheat and barley from the 3 leaf stage but before the crop reaches the boot stage. Refer to Finesse® label for crop rotation and other restrictions.	This tank mix improves control of broadleaf weeds such as henbit, tansy mustard and chickweed. Apply to weeds up to the 8 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first.

		APPLICATION TIMING AND SPECIFIC COMMENTS	
PRODUCT	RATE	CROP	WEEDS
BROX-M + Ally® + nonionic surfactant	3/4-1 1/2 pints/A + 1/10 oz/A + 1 qt/100 gal of water	Apply to wheat and barley from the 3 leaf stage but before the crop reaches the boot stage. Refer to Ally® label for crop rotation and other restrictions.	This tank mix improves control of broadleaf weeds such as henbit, tansy mustard and chickweed. Apply to weeds up to the 8 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first.
BROX-M + Dicamba DMA Salt	3/4-1 1/2 pints/A + 1/8-1/4 pint/A	Fall seeded wheat from the 3 leaf stage but before jointing. Spring seeded wheat from the 3 to 5 leaf stage of growth. *	This tank mix improves control of broadleaves such as prostrate knotweed and kochia. Apply to weeds up to the 8 leaf stage, 3 inches in height or 2 inches in diameter, whichever comes first. Apply to kochia up to 2 inches in height or diameter.
BROX-M + Harmony® Extra + nonionic surfactant	3/4-1 1/2 pints/A + 3/10-1/2 oz/A + 1 qt/100 gal of water	Winter wheat. Apply from the 3 leaf stage but before the 3 <sup>rd</sup> node is detectable. Refer to the Harmony® Extra label for crop rotation and other restrictions. Spring wheat and barley. Apply after the 3 leaf stage but before the 1 <sup>st</sup> node is detectable. Refer to the Harmony® Extra label for crop rotation and other restrictions.	This tank mix improves control of broadleaf weeds such as henbit, chickweed and redroot pigweed. Apply to weeds up to the 8 leaf stage, 4 inches in height or across, whichever comes first.
BROX-M + Amber® + nonionic surfactant	3/4-1 1/2 pints/A + 0.28-0.56 oz/A + 0.25-0.5% v/v	Apply to wheat and barley from the 3 leaf stage but before the flag leaf is visible. Refer to the Amber® label for crop rotation and other restrictions.	This tank mix improves control of broadleaves such as henbit, tansy mustard, and pigweed. Apply to weeds up to the 4 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first.
BROX-M + Express® + nonionic surfactant	3/4-1 1/2 pints/A + 1/6-1/3 oz/A + 1 qt/100 gal of water	Wheat and barley. Apply from the 3 leaf stage but before the flag is visible. Refer to the Express® label for crop rotation and other restrictions.	This tank mix improves control of broadleaf weeds such as henbit, chickweed, redroot pigweed and suppression of Canada thistle. Apply to annual weeds up to the 8 leaf stage, 4 inches in height or across, whichever comes first and to Canada thistle 4 to 8 inches tall with 2 to 6 inches of new growth.

		APPLICATION TIMING AND SPECIFIC COMMENTS	
PRODUCT	RATE	CROP	WEEDS
BROX-M + Curtail® or Curtail® M	3/4-1 1/2 pints/A + 2 pints/A	Apply to wheat and barley after the crop begins to tiller up to the 1 <sup>st</sup> node detectable.	This tank mix improves control of kochia, wild buckwheat and suppression of Canada thistle. Apply to annual broadleaf weeds up to the 8 leaf stage, 4 inches in height or 2 inches in diameter and to Canada thistle in the rosette to prebud stage.
BROX-M + Metribuzin (Sencor® or Lexone®)	1 pint/A + 1/8-3/16 lb ai/A	Winter wheat in Idaho, Oregon and Washington. Apply in spring after growth has started and secondary roots with a minimum of 3 to 4 tillers have been established, but before the forming of joints in the stem. Avoid application when crop has experienced winter kill, frost damage, disease or drought.	This tank mix improves control of broadleaf weeds such as chickweed, filaree, henbit. Apply to weeds up to the 4 leaf stage, 2 inches in height or diameter, whichever comes first. A recognized authority should be consulted concerning the use of this mixture in your area.
BROX-M + Avenge®	1-2 pints/A + 2 1/2-4 pints/A	Winter wheat. Four leaf to tillering stage. Refer to Avenge® label for varietal and other restrictions. Spring wheat. Five to 6 leaf stage. Refer to Avenge® label for varietal and other restrictions. Barley. Three to 7 leaf stage.	This tank mix will provide wild oat control in addition to broadleaves. Apply to wild oats in the 3-5 leaf stage and broadleaves that do not exceed the 4 leaf stage or rosettes of 1.5 inches in diameter. Avenge use rates per acre are 2 1/2 pints (1-10 oats per sq. ft.), 3 pints (11-25 oats per sq. ft.) or 4 pints (more than 25 oats per sq. ft.).
BROX-M + Assert®	1-1 1/2 pints/A + 1-1 1/2 pints/A	Apply to wheat and barley from the 3 leaf stage but before boot stage. Refer to Assert® label for crop rotation and other restrictions.	This tank mix will provide wild oat control in addition to broadleaf weeds. Apply to wild oats at the 1-4 leaf stage and broadleaf weeds up to the 8 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first. Use Assert at 1 1/2 pints/A west of the Rocky Mountains or if wild oats have initiated tillering. For spray volumes in excess of 10 GPA, add 0.3 fluid oz. of nonionic surfactant for each gallon in excess of 10 GPA.

### Restrictions and Precautions: Wheat, Barley, Oats and Rye

Do not graze treated fields within 45 days after application.

Do not apply when crops are under moisture stress.

Do not apply when crop canopy covers the weeds as poor control will result.

Reduced weed control may occur when weeds are stressed from lack of moisture or cold temperatures.

Refer to labels of products used in tank mixture for additional restrictions and precautions.

Do not plant any crop other than wheat, barley, oats, rye or flax for at least 30 days after application.



**FLAX (*Linum usitatissimum* only)**

**BROX-M Recommendations**

		APPLICATION TIMING AND SPECIFIC COMMENTS	
PRODUCT	RATE	CROP	WEEDS
BROX-M	0.9 pint/A	Apply to flax that is 2 to 8 inches in height. Do not apply to flax during or after bud stage.	Apply to Most Susceptible weeds that do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.

**Restrictions and Precautions: Flax (*Linum usitatissimum* only)**

Do not apply if temperatures are expected to exceed 85°F at application or 3 days following application or crop injury may occur.

Unacceptable crop injury may occur following BROX-M application to flax grown on high organic, peat type soils.

Application under high humidity conditions can injure flax.

Unless otherwise instructed, do not apply BROX-M to flax with crop oil concentrate, surfactants or nitrogen solutions.

Do not use on ornamental flax.

Do not plant any crop other than wheat, barley, oats, rye or flax for at least 30 days after application.

**WARRANTY LIMITATIONS AND DISCLAIMER**

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the Directions for Use when used under normal conditions. This is the only warranty made on this product. No other express and no implied warranty of merchantability or fitness for a particular purpose is made outside of this label. Therefore, neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), under abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes, etc.) or under conditions not reasonably foreseeable to or beyond the control of seller.

When buyer or user suffers losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability, or other legal theories), buyer or user must promptly notify seller, in writing, of any claims to be eligible to receive either remedy given below. The exclusive remedy of the buyer or user and the limit of liability of seller will be one of the following, at the election of the seller:

1. Refund of purchase price paid by buyer or user for product bought or
2. Replacement of amount of product used.

The seller will not be liable for consequential or incidental damages or losses.

The terms of this Warranty Limitations and Disclaimer cannot be varied by any written or verbal statements or agreements. Any employee or sales agent of the seller is not authorized to vary or exceed the terms of this Warranty Limitations and Disclaimer in any manner.