PM 23 100-645 NAS Highlighted Copy Page 1 of 41

(Front Cover of Removable Booklet)
RESTRICTED USE PESTICIDE
(GROUND AND SURFACE WATER CONCERNS)

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

THIS PRODUCT IS A RESTRICTED-USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.

Bicep®

Herbicide

For weed control in corn
and grain or forage sorghum

2 1/2 Gallons
U.S. Standard Measure

ACCEPTED
13 JUL 1993
Under the Federal Insecticide, Fungicide, and Rodenticide Act, for the registration listed above. 100-645

Active Ingredients:

Atrazine*: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine	27.4%
Atrazine related compounds*	1.5%
Metolachlor: 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide	35.6%
Inert Ingredients:	35.5%
Total:	100.0%

*Bicep typically contains 2.67 lbs. atrazine + relateds per gallon.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements at end of label booklet.

EPA Reg. No. 100-645
EPA Est. 100-LA-1

BEST AVAILABLE COPY

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Bicep® trademark of Ciba-Geigy Corporation
U.S. Patent No. 4,022,611 (metolachlor)

See directions for use inside booklet.

Ciba Plant Protection
Ciba-Geigy Corporation
Greensboro, North Carolina 27419

CGA

Ciba-Geigy

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DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY

IMPORTANT: Read the entire Directions for Use and the Conditions of Sale and Warranty before using this product. If terms are not acceptable, return the unopened product container at once.

Conditions of Sale and Warranty

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of Ciba-Geigy or the Seller. All such risks shall be assumed by the Buyer.

Ciba-Geigy warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use subject to the inherent risks referred to above. Ciba-Geigy makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Ciba-Geigy or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product. Ciba-Geigy and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing Conditions of Sale and Warranty, which may be varied only by agreement in writing signed by a duly authorized representative of Ciba-Geigy.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

Do not apply this product in such a manner as to directly or through drift expose workers or other persons, except those knowingly involved in the application. The area being treated must be vacated by unprotected persons.

Reentry Statement

Do not enter treated areas without protective clothing until sprays have dried.

Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Oral warnings must be given which inform workers of areas or fields that may not be entered without specific protective clothing until sprays have dried, and appropriate actions to take in case of accidental exposure as described under Precautionary Statements on this label. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: "CAUTION. Area treated with Bicep on (date of application). Do not enter without appropriate protective clothing until sprays have dried. In case of accidental exposure, flush eyes or skin with plenty of water. Call a physician if irritation persists. Remove and wash contaminated clothing before reuse."

General Information

Bicep is a selective herbicide recommended as an early preplant, preplant surface-applied, preplant incorporated, preemergence, postemergence broadcast or postemergence-directed treatment for control of most annual grasses and broadleaf weeds in corn and as an early preplant, preplant surface-applied, preplant incorporated, or preemergence treatment for control of most annual grasses and broadleaf weeds in grain or forage sorghum provided the sorghum seed has been properly treated by the seed company with Concep®. This product may be tank mixed with Banvel®, Bladex® (4L, 90DF), Cycle®, Dual® formulations, AAtrex® 4L (Nine-O®), Lorox® or equivalent, or Princep® 4L (Caliber 90®) for weed control in conventional tillage corn. This product may also be tank mixed with either Gramoxone® Extra or Roundup® alone or in combination with AAtrex, Bladex, Dual or Princep, in minimum- tillage or no-tillage corn, or tank mixed with either Gramoxone Extra or Roundup, in minimum-tillage or no-tillage sorghum.

Following many years of continuous use of atrazine (one of the ingredients in Bicep), and products chemically related to atrazine, biotypes of some of the weeds listed on this label which are controlled by the atrazine component have been reported to develop resistance to this and chemically related herbicides. Where this is known or suspected and weeds controlled by this product are expected to be present along with resistant biotypes, we recommend the use of Bicep in combination or in sequence with registered herbicides which do not contain triazines. Consult with your State Agricultural Extension Service for specific recommendations.

Precautions: 1) If sorghum seed is not properly pretreated with Concep, Bicep will severely injure the crop. 2) Injury may occur to corn or sorghum following the use of Bicep under abnormally high soil moisture conditions during early development of the crop.

Bicep alone or in tank mixture with AAtrex, Bladex, Cycle, Dual, or Princep may be applied early preplant, preplant surface, preplant incorporated, or preemergence on corn in water or fluid fertilizer. Bicep may be applied in tank mix combination with Gramoxone Extra or Roundup with or without the above herbicides preplant surface or preemergence to corn. Apply the early postemergence treatment on corn in water only. Bicep alone may also be applied on sorghum early preplant, preplant incorporated, preplant surface or preemergence in water or in fluid fertilizer.

Bicep may be applied in water by aircraft. Applications in fluid fertilizer should be only by ground equipment.

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap, as crop injury may result.

Do not apply this product through any type of irrigation system.

Where reference is made to weeds partially controlled, partial control can either mean erratic control from good to poor or consistent control at a level below that generally considered acceptable for commercial weed control.

Dry weather following preemergence application of Bicep or a tank mixture may reduce effectiveness. Cultivate if weeds develop in conventional tillage corn or sorghum.

Observe all precautions and limitations on the label of each product used in tank mixtures.

Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner. Do not use a sprayer or applicator contaminated with other materials, or crop damage or sprayer clogging of the application device may occur.

Mixing Instructions

Shake 2 1/2 gal. jugs well or thoroughly recirculate larger containers and bulk tanks before using. Bicep is a liquid that may be mixed with water or fluid fertilizer and applied as a spray. Bicep may also be sprayed onto dry bulk granular fertilizer and applied with the granular fertilizer.

Dry Bulk Granular Fertilizers

Many dry bulk granular fertilizers may be impregnated or coated with Bicep and used to control weeds in corn or Concep-treated sorghum.

When applying Bicep with dry bulk granular fertilizers, follow all directions for use and precautions on the Bicep label regarding target crops, rates per acre, soil texture, application methods, and rotational crops.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide/fertilizer mixture.

Prepare the herbicide/fertilizer mixture by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray Bicep onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray onto the fertilizer only, avoiding the walls of the blender.

If the herbicide/fertilizer mixture is too w , add a highly absorptive material, such as Agsorb® or similar granular clay materials, to obtain a dry free-flowing mixture. Absorptive materials should be added only after the herbicide has been thoroughly blended into the fertilizer mixture. Best application results will be obtained by using a granule of 6/30 particle size or of a size similar to that of the fertilizer material being used. Generally, less than 2% by weight of absorptive material will be needed. Avoid using more than 5% absorptive material by weight.

Calculate the amount of Bicep to be used by the following:

2,000 lbs. of fertilizer per acre	X	qts. of Bicep per acre	=	qts. of Bicep per ton of fertilizer

Pneumatic (Compressed Air) Application: High humidity, high urea concentrations, low fertilizer use rates, and dusty fertilizer may cause fertilizer mixture to build up or plug the distributor head, air tubes, or nozzle deflector plates. To minimize buildup, premix Bicep with a noncombustible/nonflammable mineral seal oil at up to a 1:1 ratio of Bicep to mineral seal oil per acre and spray mixture uniformly onto fertilizer. Mineral seal oil additive may be used either in a fertilizer blender or through direct injection systems. Use only those oils recommended by Ciba-Geigy, i.e., KERMAC #600™ or CV-600 or a similar mineral seal oil. Drying agents should not be used when using oil additives.

Notes: (1) Some separation of the Bicep + mineral seal oil mixture may occur. To assure uniform application, use in-tank agitation to keep the products mixed. (2) Bicep + mineral seal oil mixture may not be mixed with water or fluid fertilizer and applied through a liquid sprayer or crop injury may occur. (3) When impregnating Bicep in a blender before application, a drier mixture may be obtained by substituting a drying agent for mineral seal oil. The use of clay granules such as Agsorb is recommended over the other types of absorptive material. (4) Drying agents are not recommended for On-The-Go impregnation equipment.

Precautions: To avoid potential for explosion, (1) Do not impregnate Bicep on ammonium nitrate, potassium nitrate, or sodium nitrate either alone or in blends with other fertilizers. (2) Do not combine Bicep with a single superphosphate (0-20-0) or treble superphosphate (0-46-0). (3) Do not use Bicep on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.

Application

Apply 200-700 pounds of the herbicide/fertilizer mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending.

Uniform application of the herbicide/fertilizer mixture is essential in order to prevent possible crop injury or injury to subsequent rotational crops. Non-uniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil is recommended to obtain satisfactory weed control. On fine or medium-textured soils in areas where soil incorporation is not planned, i.e., reduced tillage situations or in some conventional till situations, make applications approximately 30 days before planting to allow moisture to move the herbicide/fertilizer mixture into the soil. On coarse-textured soils, make applications approximately 14 days prior to planting.

Precautions: (1) To help avoid rotational crop injury, make applications as early as possible, since Bicep impregnated onto dry bulk granular fertilizers can be expected to last longer in the soil than when Bicep is applied as a spray in water or fluid fertilizer. (2) To avoid potential crop injury, do not use the herbicide/fertilizer mixture on crops where planting beds are to be formed.

Application in Water or Fluid Fertilizers

Bicep Alone: Fill the spray tank one-half to three-fourths full with water or fluid fertilizer, add the proper amount of Bicep, then add the rest of the water or fluid fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform suspension.

Tank Mixtures: Fill the spray tank one-half to three-fourths full with water or fluid fertilizer, add the proper amount of Bicep, then add AAtrex, Banvel®, Cycle, linuron, or Princep; next add Dual; then add Gramoxone Extra or Roundup, depending on the tank mix combination desired; and finally add the rest of the water or fluid fertilizer. When Bladex is used in the tank mixture, add it before Bicep unless otherwise specified. (See Bladex section under Bicep Combinations - Corn for further mixing instructions.) Provide sufficient agitation during mixing and application to maintain a uniform suspension.

Compatibility Test: Check the compatibility of Bicep and tank mixtures in fluid fertilizer by mixing proportionate quantities in a small container, as described below, before mixing in the spray tank. Nitrogen solutions or complete fluid fertilizers may replace all or part of the water in the spray. Since liquid fertilizers can vary, even within the same analysis, always check compatibility each time before reuse. Be especially careful when using complete suspension or fluid fertilizers as serious compatibility problems are more apt to occur. Commercial application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gals. per acre. For other spray volumes, make appropriate changes in the ingredients. Check compatibility using this procedure:

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1) Add 1 pint of fertilizer to each of 2 one-quart jars with tight lids.

2) To one of the jars add 1/4 tsp. or 1.2 milliliters of a compatibility agent approved for this use, such as Compex® or Unite® (1/4 tsp. is equivalent to 2 pts. per 100 gals. spray). Shake or stir gently to mix.

3) To both jars add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:

Dry herbicides:	For each pound to be applied per acre, add 1.4 teaspoons to each jar.
Liquid herbicides:	For each pint to be applied per add 0.5 teaspoon or 2.5 milliliters to each jar.

4) After adding all ingredients, put lids on and tighten, and invert each jar ten times to mix. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the two jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry the dry herbicides(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If still incompatible, do not use the mixture.

5) After compatibility testing is complete, dispose of any pesticide wastes in accordance with the directions in the Storage and Disposal section at the end of this label.

Application Procedures

Ground Application: Use sprayers that provide accurate and uniform application. Screens in nozzles and in suction and in-line strainers should be no finer than 50-mesh. Use a pump with capacity to (1) maintain 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in suspension. Unless otherwise specified, use a minimum of 10 gals. of spray mixture per acre. Rinse sprayer thoroughly with clean water immediately after use.

For band applications, calculate amount to be applied per acre as follows:

band width in inches / row width in inches X broadcast rate per acre = amount needed per acre of field

Low Carrier Application (Broadcast Ground Application Only):

Use sprayers such as Melroe Spra-Coupe, Hagie, John Deere Hi-Cycle®, or Willmar Air Ride® that provide accurate and uniform application. Only water may be used as a carrier. Screens in suction and in-line strainers should be 50-mesh. Manufacturers may require that tip screens as fine as 100-mesh be used with some nozzles. Use a pump with capacity to (1) maintain up to 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in suspension. Use a minimum of 5 gals. of spray mixture per acre. Maximum recommended sprayer speed is 15 mph. Rinse sprayer thoroughly with clean water immediately after each use.

Note: Low pressure nozzles are recommended to reduce drift and increase application accuracy. Care should be taken when using automatic rate controlling devices to spray the material within the rated working pressure and flow ranges of the nozzles selected. Nozzle screens should be used when recommended by the manufacturer. All nozzles should be placed on 20-inch centers, except flooding types which should be placed on 40-inch centers. When Flat Fan type nozzles are used, angles of 80° or 110° are recommended. Always read and follow the manufacturer's directions for optimum setup and performance of their nozzles or tips.

Aerial Application (for Bicep alone): Use aerial application only where broadcast applications are specified. Apply a minimum of 1 gal. of water for each 1 gal. of this product applied per acre, but for rates below 1 gal./acre, use in sufficient water to equal 2 gals./acre of total spray. Avoid applications under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. In order to assure that spray will be controllable within the target area when used according to the label directions, make applications at a maximum height of 10 ft., using low drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive nontarget plants, apply Bicep by aircraft at a minimum upwind distance of 400 ft. from sensitive plants.

Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin, and should wash thoroughly before eating and at the end of each day's operation.

Within rate ranges in all tables on this label, use the lower rate on soil relatively coarse-textured or low in organic matter; use the higher rate on soil relatively fine-textured or high in organic matter.

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Recommendations are based upon soil textures, which are defined as follows:

Coarse - Sand, sandy loam, loamy sand

Medium - Loam, silt loam, silt

Fine - Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay

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Bicep Applied Alone - Corn, Grain Sorghum, or Forage Sorghum

Early Preplant, Preplant Surface-Applied, Preplant Incorporated, or Preemergence

Weeds Controlled		Weeds Partially Controlled**
barnyardgrass (watergrass)	carpetweed	sandbur
browntop panicum	chickweed	seedling johnsongrass
crabgrass	cocklebur*	shattercane
crowfootgrass	common purslane	sicklepod
fall panicum	Florida pusley	volunteer sorghum
foxtail millet	galinsoga	
giant foxtail	henbit	
goosegrass	jimsonweed	
green foxtail	lambsquarters	
prairie cupgrass	morningglory	
red rice	mustards	
signalgrass (Brachiaria)	nightshades	
southwestern cupgrass	pigweed	
witchgrass	ragweed	
yellow foxtail	smartweed	
yellow nutsedge*	velvetleaf*	

*Control of these weeds can be erratic especially under dry weather conditions. Control escaped weeds with cultivation or application of an appropriate EPA-registered postemergence herbicide. On fine-textured soils, only partial control can be expected.

**Control may be improved by following these suggested procedures:

1) Thoroughly till moist soil to destroy germinating and emerged weeds. If Bicep is to be applied preplant incorporated, this tillage may be used to incorporate Bicep if uniform 2 inch incorporation is achieved as recommended under Application Procedures.

2) Plant crop into moist soil immediately after tillage. If Bicep is to be used preemergence, apply at planting or immediately after planting.

3) If available, sprinkler irrigate within 2 days after application. Apply 1/2-1 inch of water. Use lower water volume (1/2 inch) on coarse-textured soils and higher volume (1 inch) on finer textured soils.

4) If irrigation is not possible and rain does not occur within 2 days after planting and application, weed control may be decreased. Under these conditions, a uniform, shallow cultivation is recommended as soon as weeds emerge.

Bicep Rate Limitations - Corn and Sorghum*

*Where there are state/local requirements regarding atrazine use (including lower maximum rates and/or greater setbacks) which are different from the label, the more restrictive/protective requirements must be followed. Certain states may have established rate limitations within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

Note: For purposes of calculating total atrazine active ingredient applied, Bicep contains 2.67 lbs. ai per gal. (0.6675 lb. ai per qt.).

FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE

- On Highly Erodible Soils (as defined by SCS)

  If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply a maximum of 3.0 qts./A as a broadcast spray. Refer to "B" in tables following.

  If the soil coverage with plant residue is less than 30% at planting, a maximum of 2.4 qts./A may be applied. Refer to "A" in tables following.

- On Soils Not Highly Erodible

  Apply a maximum of 3.0 qts./A as a broadcast spray. Refer to "B" in tables following.

FOR POSTEMERGENCE APPLICATION TO CORN

If no atrazine was applied prior to corn emergence, apply a maximum of 3.0 qts./A broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lbs. active ingredient (3.75 qts. of Bicep) per acre per calendar year.

Application Timings

Early Preplant (Corn): Use on medium- and fine- textured soils with minimum-tillage or no-tillage systems in CO, IA, IN, IL, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY. Apply 2/3 the recommended rate of Bicep as a split treatment 30-45 days before planting and the remainder at planting using the rates in Table 1. Applications made less than 30 days prior to planting may be as either a split or single treatment. Use the lower rate for light expected weed infestations and the higher rate for heavy expected weed infestations. On coarse-textured soils, apply 2.4 qts./A not more than 2 weeks prior to planting. The above procedure may be followed if AAtrex or Dual or Princep is used in tank mixtures with Bicep. Substitute a fluid fertilizer for some or all of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide (for example, Gramoxone Extra or Roundup). Observe directions for use, precautions, and restrictions on the label of the contact herbicide.

On medium- and fine-textured soils with minimum- or no-tillage systems in DE, MD, MI, NY, OH, PA, VA, AND WV, early preplant applications may be applied following the directions for use above. If the amount of rainfall results in unsatisfactory

length of weed control following the earlier treatment, a post-emergence application of an appropriately labeled broadleaf and/or grass weed herbicide may be used, i.e., AAtrex, Beacon®, Basagran®, 2,4-D, Banvel, bromoxynil (Brominal® or Buctril®), Marksman®. If the postemergence treatment includes the herbicide used early preplant, do not exceed the labeled rate for corn on a given soil texture. Observe all directions for use, precautions, and limitations on the label of the postemergent herbicide.

Bicep may be used according to the above directions to control winter wheat planted as a cover crop in IN, KY, and OH, in addition to providing residual weed control. The wheat must be less than 6 inches tall (preferably still in a dormant or semi-dormant state coming out of winter) at the time of application. Depending on rainfall, 10-20 days may be required to completely kill the wheat. In the event that adequate rainfall does not occur, control of the winter wheat may be unsatisfactory and the application of a contact herbicide (i.e., Gramoxone Extra or Roundup) may be required before planting the crop.

On medium- and fine-textured soils following final seed bed preparation in the Blackland and Gulf Coast areas of TX, an early preplant application of Bicep at 1.8 to 2.2 qts./A may be made 30-45 days before planting. Grass suppression of 2-3 weeks after planting can be expected as a result of this application. Do not incorporate or disturb the soil before planting and avoid moving the soil during the planting operation. A follow-up application of Dual may be needed in fields with a history of heavy grass pressure. Apply after planting, but before corn and grass weeds emerge.

Notes: (1) If a follow-up application of Dual is needed, do not exceed a total of 2.5 lbs. ai of metolachlor/A including the preplant Bicep application on medium or fine-textured soils. On fine-textured soils with more than 3% organic matter, do not exceed 3 lbs. ai of metolachlor. (2) To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

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Table 1: Bicep - Early Preplant - Corn

Soil Texture	Single Application	Split Application*	
		30-45 DBP**	At Planting
COARSE Sand, loamy sand, sandy loam	2.4 qts./A	DO NOT APPLY	
MEDIUM Loam, silt loam, silt	A. 2.4 qts./A	1.6 qts./A	0.8 qt./A
	B. 2.4-3.0 qts./A	1.6 qts./A to 2.0 qts./A	0.8 qt./A to 1.0 qt./A
FINE Sandy clay loam silty clay loam, silty clay, sandy clay, clay loam, clay	A. 2.4 qts./A	1.6 qts./A	0.8 qt./A
	B. 3.0 qts./A	2.0 qts./A	1.0 qt./A

*Split applications can be made less than 30 days before planting if desired.

**DBP - Days before planting.

A. Do not exceed this rate on highly erodible soils with less than 30% plant residue cover. Control of certain weeds may be reduced, and a tank-mix partner or an application of a postemergence herbicide may be needed.

B. Use these rates for all other applications.

Early Preplant (Sorghum-Seed Treated with Concep): For minimum-tillage and no-tillage systems only, Bicep may be applied up to 45 days before planting grain sorghum in IA, IL, eastern KS, MO, NE, and SD using the rates in Table 2. Use only split applications for treatments made 30 to 45 days before planting with 2/3 the recommended rate applied initially and the remaining 1/3 at planting. Applications made less than 30 days prior to planting may be made as either a split or single application.

Substitute a fluid fertilizer for some or all of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide

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(for example, Gramoxone Extra or Roundup). Observe directions for use, precautions, and restrictions on the label of the contact herbicide. Under dry conditions, irrigation after application is recommended to move Bicep into the soil.

Note: To the extent possible, do not move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished. Do not use on coarse soils. Do not use on medium soils with less than 1.0% organic matter.

On medium- and fine-textured soils following final seed bed preparation in the Blackland, Panhandle, and Gulf Coast areas of TX, an early preplant application of Bicep at 1.8 to 2.2 qts./A may be made 30 to 45 days before planting. Grass suppression of 2-3 weeks after planting can be expected as a result of this application. Do not incorporate or disturb the soil before planting and avoid moving the soil during the planting operation. A follow-up application of Dual may be needed in fields with a history of heavy grass pressure. Apply after planting, but before sorghum and grass weeds emerge.

Notes: 1) Do not use on soils with a pH greater than 8.0 if grain sorghum is to be planted. 2) If a follow-up application of Dual is needed, do not exceed a total of 2.25 lbs. ai of metolachlor/A, including the early preplant Bicep application on medium-textured soils. On fine-textured soils, do not exceed 2.5 lbs. ai of metolachlor/A.

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Table 2: Bicep - Early Preplant - Grain or Forage Sorghum (Seed treated with Concep)

Soil Texture	Organic Matter Content	Single Application	Split Application* 30-45 DBP**	Split Application* At Planting
COARSE Sand, loamy sand, sandy loam	any level	DO NOT USE	DO NOT	USE
MEDIUM Loam, silt loam, silt	A.more than 1.0%	2.4 qts./A	1.6 qts./A	0.8 qt./A
	less than 1.0% B.	DO NOT USE	DO NOT	USE
	more than 1.0%	2.4 qts./A to 2.7 qts./A	1.6 qts./A to 1.8 qts./A	0.8 qt./A to 0.9 qt./A
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	A.more than 1.0%	2.4 qts./A	1.6 qts./A	0.8 qt./A
	1.0%-1.5%	2.4 qts./A to 2.7 qts./A	1.6 qts./A to 1.8 qts./A	0.8 qt./A to 0.9 qt./A
	more than 1.5% B.	2.7 qts./A to 3.0 qts./A	1.8 qts./A to 2.0 qts./A	0.9 qt./A to 1.0 qt./A

*Split applications can be made less than 30 days before planting if desired.

**DBP = Days before planting.

A. Do not exceed this rate on highly erodible soils with less than 30% plant residue cover. Control of certain weeds may be reduced, and a tank-mix partner or an application of a postemergence herbicide may be needed.

B. Use these rates for all other applications.

Preplant Surface, Preplant Incorporated or Preemergence (Corn or Sorghum-Seed Treated with Concep): Apply Bicep preplant surface, preplant incorporated or preemergence using the appropriate rates from Table 3 for corn, or from Table 4 for sorghum.

Preplant Surface: Apply uniformly to the soil surface within 14 days before planting. Where applications are made to coarse soils more than 7 days before planting, use the rates in Table 1 for corn.

Preplant Incorporated: Apply to the soil and incorporate into the top 2 inches of the soil within 14 days before planting using a finishing disk harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. Use preplant incorporated if furrow irrigation is used or when a

period of dry weather after application is expected. If crop is to be planted on beds, apply and incorporate after bed formation.

Preemergence: Apply to the soil surface at planting (behind the planter), or after planting but before weeds or crop emerge.

Table 3: Bicep - Preplant Surface, Preplant Incorporated or Preemergence - Corn

Soil Texture	Broadcast Rate Per Acre	
	Less than 3% Organic Matter	3% Organic Matter or Greater
COARSE Sand, loamy sand, sandy loam	1.5 qts.	1.8 qts.
MEDIUM Loam, silt loam, silt	1.8 qts.	2.4 qts.
FINE Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay	2.4 qts.	A. 2.4 qts. B. 2.4-3 qts.*
Muck or peat soils (more than 20% organic matter)	DO NOT USE	

*For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter: Apply 3 qts. of Bicep per acre.

A. Do not exceed this rate on highly erodible soils with less than 30% plant residue cover. Control of certain weeds may be reduced, and a tank-mix partner or an application of a postemergence herbicide may be needed.

B. Use this rate for all other applications.

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NOTES: (1) In the event of escape of annual broadleaf weeds following an early preplant, preplant surface, preplant incorporated, or preemergence treatment of Bicep applied alone or in combination, follow with a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide, i.e., AAtrex, Beacon, Basagran, Brominal, Buctril, Banvel, 2,4-D or Marksman. If the postemergence treatment includes the herbicide used in the earlier treatment, do not exceed the labeled rate for corn on a given soil texture. (2) Brominal or Buctril may be applied postemergence alone or in tank mix combination with AAtrex. Do not exceed 1.2 lbs. ai/A of AAtrex in tank mix combination with Brominal or Buctril postemergence. Refer to the Brominal, Buctril and AAtrex labels for specific rates and precautions. (3) If AAtrex or another product containing atrazine is used postemergence following application of Bicep, do not exceed a total of 2.5 lbs. ai/A of atrazine per year. (4) Substitute fluid fertilizer for some or all of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present at time of treatment, add a contact herbicide as noted in the Bicep Combinations section of this label.

Table 4: Bicep - Preplant-Surface, Preplant Incorporated or Preemergence - Grain or Forage Sorghum* (Seed treated with Concep)

Soil Texture	Organic Matter	Broadcast Rate Per Acre
COARSE Sand, loamy sand, sandy loam	any level	DO NOT USE
MEDIUM AND FINE Loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, clay	less than 1.0%	DO NOT USE
	more than 1.0%	1.8-2.4 qts.

*Do not use in NM or TX except in the TX Panhandle, Gulf Coast and Blacklands areas. Do not apply preplant incorporated in AZ or the Imperial Valley of CA.

Note: Substitute a fluid fertilizer for some or all of the water carrier for burndown of existing annual weeds listed on this label up to the 2-leaf stage of development. The addition of crop oil concentrate to the spray mixture will enhance the burndown activity. If larger weeds are present at the time of treatment, add a contact herbicide as noted in the Bicep Combinations section of this label.

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Precautions: To avoid possible crop injury, (1) Do not apply Bicep on highly alkaline soils (pH greater than 8.0) or on eroded areas where calcareous subsoils are exposed. (2) Do not apply Bicep when sorghum is planted in deep furrows because heavy rains following application can cause excessive concentrations of herbicide in the furrow. (3) Do not apply to sorghum grown under dry mulch tillage. (4) Injury may occur if both Bicep applied early preplant, preplant surface, preplant incorporated, or preemergence and an at-planting systemic insecticide applied in-furrow are used. (5) In addition, sorghum growing under stress caused by minor element deficiency may be injured by Bicep.

Rotational Crops: (1) If treated crop is lost due to poor germination, hail, flood, insects, etc., corn may be replanted immediately or sorghum may be replanted immediately provided the seed has been properly treated with Concep. Do not make a second broadcast application. If the original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied. (2) Corn, sorghum, soybeans, cotton, or peanuts may be planted the spring following treatment. Do not graze or feed forage or fodder from cotton to livestock or illegal residues may result. (3) Injury may occur to soybeans planted the year following application on soils having a calcareous surface layer. (4) In eastern parts of the Dakotas, KS, western MN and NE, do not rotate to soybeans for 18 months following application if the rate applied to corn or sorghum was more than 2.0 lbs. ai of atrazine or equivalent band application rate, or soybean injury may occur. (5) If applied after June 10, do not rotate with crops other than corn or sorghum the next year, or crop injury may occur. (6) In the High Plains and Intermountain areas of the West where rainfall is sparse and erratic or where irrigation is required, use only when corn or sorghum is to follow corn or sorghum, or a crop of untreated corn or sorghum is to precede other rotational crops. (7) Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small seeded legumes the year following application, or injury may occur. (8) All other crops may be planted 15 months after application.

Postemergence Broadcast - Corn

Weeds Controlled		Weeds Partially Controlled
barnyardgrass (watergrass)	jimsonweed	yellow nutsedge
cocklebur	kochia	
crabgrass	lambsquarters	
crowfootgrass	morningglory	
fall panicum	mustard	
giant foxtail	pigweed	
green foxtail	prickly sida	
yellow foxtail	purslane	
	ragweed	
	smartweed	
	velvetleaf	

Application: Apply early postemergence using the appropriate rate from Table 5. Apply this treatment before grass and broadleaf weeds pass the 2-leaf stage and before corn exceeds 5 inches in height. Application to weeds larger than the 2-leaf stage will generally result in unsatisfactory control. Occasional corn leaf burn may result, but this should not affect later growth or yield. Do not apply postemergence in fluid fertilizer or severe crop injury may occur.

Note: To avoid possible illegal residues, do not graze or feed forage from treated areas for 30 days following application.

Table 5: Postemergence Broadcast - Corn

Soil Texture	Broadcast Rate Per Acre
COARSE Sand, loamy sand, sandy loam	1.8 qts.
MEDIUM Loam, silt loam, silt	2.4 qts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2.4-3 qts.*

*For better residual control of cocklebur, velvetleaf and yellow nutsedge on fine-textured soils above 3% organic matter, apply 3 qts. of Bicep per acre.

Notes: (1) If Bicep has been applied early preplant, preplant surface, preplant incorporated or preemergence, do not exceed a total of 3.75 qts./A of Bicep on a corn crop. (2) If AAtrex (atrazine) or AAtrex plus Dual tank mixtures have been applied early preplant, preplant surface, preplant incorporated or preemergence, limit the Bicep early post application not to exceed a total of 2.5 lbs. of the active ingredient in AAtrex or 6 lbs. of the active ingredient in Dual per acre on a corn crop, or illegal residues may result.

Rotational Crops: Follow the preceding crop rotation instructions for Bicep Early Preplant, Preplant Surface-Applied, Preplant Incorporated, or Preemergence.

Postemergence - Directed - Corn

Bicep may be applied at 1.5-3 qts./A in a minimum of 15 gals. of water as a postemergence directed treatment to corn to extend control of weeds listed in the Early Preplant, Preplant Surface-Applied, Preplant Incorporated, Preemergence, or Postemergence Broadcast section of the corn label. Apply using the appropriate rate from Table 6.

For best results, apply Bicep to weed free soil following use of a preplant-surface, preplant incorporated or preemergence herbicide, or following a lay-by cultivation. If weeds have emerged at the time of Bicep application, apply before grass and broadleaf weeds exceed the 2-leaf stage. Application to weeds larger

than the 2-leaf stage will generally give unsatisfactory control. Apply to corn not exceeding 5-12 inches in height. Minimize contact with corn leaves. Do not apply postemergence in fluid fertilizer, or severe crop injury may occur.

Note: To avoid possible illegal residues, do not graze or feed forage from treated areas for 30 days following application.

Table 6: Postemergence - Directed - Corn

Soil Texture	Broadcast Rate Per Acre
COARSE Sand, loamy sand, sandy loam	1.5 qts.
MEDIUM Loam, silt loam, silt	2.4 qts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	2.4-3 qts.*

*For better residual control of cocklebur, velvetleaf and yellow nutsedge on fine-textured soils above 3% organic matter, apply 3 qts. of Bicep per acre.

Notes: (1) If Bicep has been applied early preplant, preplant surface, preplant incorporated or preemergence, do not exceed a total of 3.75 qts./A of Bicep on a corn crop. (2) If AAtrex (atrazine) or AAtrex plus Dual tank mixtures have been applied preplant surface, preplant incorporated or preemergence, limit the Bicep post-directed application not to exceed a total of 2.5 lbs. of the active ingredient in AAtrex or 6 lbs. of the active ingredient in Dual per acre on a corn crop, or illegal residues may result.

Bicep Combinations - Corn*

*When tank mixing Bicep with AAtrex formulations, refer to the Bicep Rate Limitations section of this label. Do not exceed the following:

On highly erodible soils with less than 30% plant residue cover prior to crop emergence	1.6 lbs ai of atrazine
On other soils prior to crop emergence	2.0 lbs. ai of atrazine
Postemergence applications only - any soil	2.0 lbs. ai of atrazine
Preemergence + postemergence applications	2.5 lbs. ai of atrazine

1. Tank Mixture with AAtrex, Dual, Princep or Bladex - Conventional Tillage

AAtrex (4L or Nine-O): Add up to 1 qt. of AAtrex 4L (1.1 lbs. Nine-O) per acre to the rate of Bicep recommended in Table 3 in the southeastern U.S. where high rainfall can shorten the duration of control of broadleaf weeds, and in all areas where heavy infestations of cocklebur, morningglory, velvetleaf, or other broadleaf weeds claimed are expected.

Dual: Add up to 1/2 pt. of Dual per acre to the rate of Bicep recommended in Table 3 when heavy infestations of yellow nutsedge, sandbur, or seedling johnsongrass are expected.

Princep (4L or Caliber 90): Add up to 1 qt. of Princep 4L (1.1 lbs. Caliber 90) per acre to the rate of Bicep recommended in Table 3 where heavy infestations of crabgrass or fall panicum are expected or additional control of certain broadleafs is desired.

Bladex (4L or 90DF): Add up to 2 qts. of Bladex 4L (2.2 lbs. 90DF) per acre. When Bladex is added, the rate of Bicep suggested in Table 3 should be reduced by not more than 25% for a given soil texture in the Clarion-Nicollet-Webster soil association in northern IA and southern MN, or in other areas where soybean rotational concerns exist.

Note: Check the compatibility of Bicep tank mixtures with Bladex before mixing in spray tank by using the procedure described under Application in Water or Fluid Fertilizers. Always use Unite (or an equivalent compatibility agent) at 2 pts./100 gals. when using Bladex 90DF in tank mixtures with Bicep. Compatibility testing is especially critical when using Bladex 90DF combinations. Always add Bladex to the spray tank before Bicep, regardless of which Bladex formulation is used.

2. Tank Mixtures of Bicep Alone or Bicep plus AAtrex, Bladex, Dual, or Princep, with Gramoxone Extra or Roundup for Minimum- Tillage or No-Tillage Systems

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Gramoxone Extra or Roundup should be tank mixed with Bicep alone or with Bicep plus AAtrex, Bladex, Dual, or Princep. When used as directed, the Gramoxone Extra portion of the tank mixture controls most emerged annual weeds and suppresses many perennial weeds. Roundup combinations will control emerged annual and perennial weeds when applied as directed on the Roundup label. The Bicep portion of the tank mixture provides preemergence control of the weeds listed on this label in the Bicep Alone section for corn. The addition of AAtrex, Bladex, Dual, or Princep offers the advantage indicated for each under Conventional Tillage above.

Application: Apply before, during, or after planting but before corn emerges, at the appropriate rate in Table 7. Up to 1 qt. of AAtrex 4L (1.1 lbs. Nine-O), or 2 qts. of Bladex 4L (2.2 lbs. 90DF), or 1/2 pt. of Dual, or 1 qt. of Princep 4L (1.1 lbs. Caliber 90) per acre may be added to the rate of Bicep recommended in Table 7. Add Gramoxone Extra or Roundup at the following broadcast rates:

Gramoxone Extra: 1.5-2.0, 2.0-2.5 or 2.5-3.0 pts. per acre to 1-3 inches, 3-6 inches, or 6-inch tall weeds, respectively. Apply surfactant at 1 or 2 pts. per 100 gals. of spray mixture with 75% or greater or 50-74% nonionic active ingredient, respectively. This treatment will not control weeds taller than 6 inches.

Roundup: 1.5 qts. per acre for control of existing annual weeds, or 2-4 qts. per acre for existing perennial weeds. See the Roundup label for weeds controlled and recommended rates for specific weeds.

Apply in 20-60 gals. of water per acre with conventional spray equipment.

3. Tank Mixtures of Bicep Alone or Bicep plus AAtrex or Bladex, with 2,4-D or 2,4-D plus Banvel for Minimum-Tillage or No-Tillage Systems

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, Bicep may be applied in combination with AAtrex or Bladex. When used as directed, the Bicep portion of the tank mixture provides preemergence control of the weeds listed on this label in the Bicep Alone section for corn. The addition of AAtrex or Bladex offers the advantage indicated for each under Conventional Tillage above.

Application: Apply Bicep before, during, or after planting but before corn emerges, at the appropriate rate in Table 7. Up to 1 qt. of AAtrex 4L (1.1 lbs. Nine-O) or 2 qts. of Bladex 4L (2.2 lbs. 90DF) per acre may be added to the rate of Bicep recommended in Table 7.

Where heavy crop residues exist, add an appropriately labeled 2,4-D amine or low volatile ester to the spray tank last and apply in a minimum of 25 gals. of carrier/A.

As carriers, nitrogen solutions and complete liquid fertilizers, applied before corn emergence, enhance burndown of existing weeds, and therefore are recommended instead of water. Add X-77® surfactant at 1.0-2.0 qts./100 gals. of diluted spray, or another surfactant cleared for use on growing crops at its recommended rate. Apply before weeds exceed 3 inches in height. If alfalfa is present, add Banvel to the spray mixture at 0.33-0.5 pt./A and apply before alfalfa exceeds 6 inches in height.

For fields with existing sod grasses (e.g., bromegrass, orchardgrass, rye or timothy), when existing weeds exceed 3 inches in height or when very dry conditions exist, add Gramoxone Extra at the rate of 2.5 pts./A in place of or in addition to 2,4-D as indicated above. Do not apply Gramoxone Extra in suspension type liquid fertilizer. Observe all directions for use, precautions and limitations on the respective product labels when applying these products in tank mix combination.

Note: When applying Bicep and Bladex in tank mix combination, follow directions under Conventional Tillage above to ensure compatibility of these products in the tank mixture.

Table 7: Bicep for Minimum-Tillage or No-Tillage Corn

Soil Texture	Broadcast Rate Per Acre
COARSE Sand, loamy sand, sandy loam	1.8 qts.
MEDIUM Loam, silt loam, silt	2.4 qts.
FINE Sandy clay loam, silty clay loam, clay loam, sandy clay, silty clay, clay	A. 2.4 qts. B. 2.4-3 qts.*
Muck or peat soils	DO NOT USE

*For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter, apply 3 qts. of Picep per acre.

A. Do not exceed this rate on highly erodible soils with less than 30% plant residue cover. Control of certain weeds may be reduced, and a tank-mix partner or an application of a postemergence herbicide may be needed.

B. Use this rate for all other applications.

4. Tank Mixture with Cycle

If a lower rate of atrazine is desired than that applied with Bicep alone, a tank mixture of Bicep plus Cycle may be used for control of annual weeds.

Applications may be made early preplant, preplant surface, preplant incorporated or preemergence. For control of actively growing emerged annual weeds less than 2 inches in height, a contact herbicide will generally not be required for use with Bicep plus Cycle tank mixture. The use of a nitrogen solution or complete fertilizer solution in the spray mixture or as the carrier, will improve the burndown activity of the tank mixture. For weeds exceeding 2 inches in height, addition of a contact herbicide (e.g., Gramoxone Extra or Roundup) to the mixture is recommended in accordance with its label.

For applications made between 14 and 30 days before plant-

ing, apply 1/2-3/4 of the recommended rate of Bicep Alone in Table 1 in tank mixture with 1/2-3/4 the rate of Cycle Alone as specified in the Cycle label. For applications made up to 14 days before planting, use 1/2-3/4 of the recommended rate in Table 3.

For applications made 30-45 days before planting, the rate of Bicep and Cycle as indicated above may be applied as a split treatment with 2/3 of the Bicep and Cycle rates applied initially followed by the remaining 1/3 at planting.

Notes: (1) Tank mixtures of Bicep and Cycle as described above may provide less effective residual control of large seeded broadleaf weeds (e.g., velvetleaf and cocklebur) than Bicep applied alone at the full rate. (2) If perennial broadleaf weeds are present at the time of treatment, the addition of 2,4-D and/or Banvel to the tank mixture in accordance with its label may improve performance.

5. Tank Mixture with Linuron for Control of Lambsquarters and Pigweed

For prolonged control of lambsquarters and pigweed in DE, MD, NJ, NY, PA, VA and WV, Bicep may be applied preemergence in combination with linuron. Apply Bicep according to the rates in Table 3 and linuron according to the rates below.

Soil texture	Broadcast Rate Per Acre
Sandy loam (1-3% organic matter)	0.67 lb. Lorox
Sandy loam (3-6% organic matter)	1.0 lb. Lorox*
Medium and fine-textured soils (1-6% organic matter)	1.0 lb. Lorox*

*When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals one lb. of Lorox DF.

Follow instructions and precautions on the Bicep and Lorox labels when tank mixing these products.

Rotational Crops: Follow the crop rotation instructions in the Bicep Alone section for corn.

Bicep Combinations - Grain Sorghum (Seed treated with Concep)

1. Tank Mixtures of Bicep with Gramoxone Extra or Roundup for Minimum-Tillage or No-Tillage Systems

In minimum-tillage or no-tillage systems where grain sorghum is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbi-

cides Gramoxone Extra or Roundup may be tank mixed with Bicep. When used as directed, the Gramoxone Extra portion of the tank mixture controls most emerged annual weeds and suppresses many perennial weeds. Roundup combinations will control emerged annual and perennial weeds when applied as directed on the Roundup label. The Bicep portion of the tank mixture provides preemergence control of the weeds listed on this label in the Bicep Applied Alone section.

Refer to the label of each product used in combination and observe the planting details, restrictions, and all other precautions and limitations.

Application: Apply before, during, or after planting but before grain sorghum emerges, at the appropriate rate in Table 8. Add Gramoxone Extra or Roundup at the following broadcast rates:

Gramoxone Extra: 1.5-2.0, 2.0-2.5 or 2.5-3.0 pts. per acre to 1-3 inches, 3-6 inches, or 6-inch tall weeds, respectively. Apply surfactant at 1 or 2 pts. per 100 gals. of spray mixture with 75% or greater or 50-74% nonionic active ingredient, respectively. This treatment will not control weeds taller than 6 inches.

Roundup: 1.5 qts. per acre for control of existing annual weeds, or 2-4 qts. per acre for existing perennial weeds. See the Roundup label for weeds controlled and recommended rates for specific weeds.

Apply in a minimum of 20 gals. of water per acre with conventional spray equipment.

Table 8: Bicep for Minimum-Tillage or No-Tillage Grain Sorghum* (Seed treated with Concep)

Soil Texture	Organic Matter	Broadcast Rate Per Acre
COARSE Sand, loamy sand, sandy loam	any level	DO NOT USE
MEDIUM AND FINE Loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, clay	less than 1%	DO NOT USE
	1-1.5%	1.8 qts.
	more than 1.5%	2.1-2.4 qts.

*Do not use in NM or TX except the TX Panhandle, Gulf Coast and Blacklands areas. Do not apply preplant incorporated in AZ or the Imperial Valley of CA.

2. Tank Mixture with Cycle

If a lower rate of atrazine is desired than that applied with Bicep alone, a tank mixture of Bicep plus Cycle may be used for control of annual weeds.

Applications may be made early preplant, preplant surface, preplant incorporated or preemergence. For control of actively growing, emerged annual weeds that do not exceed 2 inches in height, a contact-type herbicide will generally not be required for use with the Bicep plus Cycle tank mixtures. The use of a nitrogen solution or complete fertilizer solution in the spray or as the carrier will improve the burndown activity of the tank mixture. For weeds exceeding 2 inches in height, addition of a contact-type herbicide (e.g., Gramoxone Extra or Roundup) to the mixture is recommended in accordance with its label.

For applications made between 14 and 30 days before planting, apply one-half (1/2) of the recommended rate of Bicep Alone in Table 2 in tank mixture with one-half (1/2) the rate of Cycle Alone specified on the Cycle label. For

applications made up to 14 days before planting, use 1/2 of the recommended rate in Table 4.

For applications made 30-45 days before planting, the rate of Bicep and Cycle indicated above may be applied as a split treatment with 2/3 of the Bicep and Cycle rate applied initially followed by the remaining 1/3 at planting.

Notes: (1) Tank mixtures of Bicep and Cycle as described above may provide less effective residual control of large seeded broadleaf weeds (e.g., velvetleaf and cocklebur) than Bicep applied alone at the full rate. (2) If perennial broadleaf weeds are present at time of treatment, the addition of 2,4-D or Banvel to the tank mixture in accordance with its label may improve performance.

Precautions: To avoid possible crop injury, (1) Do not apply Bicep on highly alkaline soils (pH greater than 8.0) or on eroded areas where calcareous subsoils are exposed. (2) Do not apply Bicep when sorghum is planted in deep furrows because heavy rains following application can cause excessive concentrations of herbicide in the furrow. (3) Do not apply to sorghum grown under dry mulch tillage. (4) Injury may occur if both Bicep applied early preplant, preplant surface, preplant incorporated, or preemergence and an at-planting systemic insecticide applied in-furrow are used. (5) In addition, sorghum growing under stress caused by minor element deficiency may be injured by Bicep.

Rotational Crops: Follow the crop rotation instructions in the Bicep Alone section.

Roadsides

To control certain annual weeds in established perennial grasses along roadsides in CO, KS, MT, NE, ND, SD, and WY, including barnyardgrass, cheatgrass (downy brome, chess), common (annual) broomweed, crabgrass, fall panicum, giant foxtail, goosegrass, green foxtail, little barley, medusahead, sagewort, tumble mustard, witchgrass, and yellow foxtail, broadcast 1.5 qts./A in a minimum of 10 gals. of water by ground equipment in the fall before ground freezes, or after thawing in the spring, but before the established grasses green-up and before weeds emerge.

Examples of desirable established grasses include big bluestem, bluegrama, bromegrass, buffalograss, crested wheatgrass, Indiangrass, little bluestem, side-oats grama, switchgrass, and western wheatgrass. Apply only once a year. Temporary discoloration or other form of injury to the desirable perennial grasses may occur following application.

Notes: (1) Keep off desirable flowers, ornamentals and shrubs. (2) Do not attempt to reseed treated roadsides with desirable perennial grasses for 12 months after application. To avoid illegal residues, (3) Do not cut or feed roadside grass, hay and (4) Do not allow livestock to graze treated areas.

Storage and Disposal

Storage

Ground water contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

Pesticide Disposal

Do not contaminate water, food, or feed by storage, disposal, or cleaning of equipment. Open dumping is prohibited. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to federal, state or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

Container Disposal

Do not reuse empty container. Triple rinse (or equivalent), puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-888-8372 day or night.

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing vapors or spray mists. Causes eye and skin irritation. May be a skin sensitizer. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Users are required to wear long-sleeved shirts and long pants (or equivalent), chemical resistant gloves, and waterproofed boots. In addition, persons involved in mixing/loading operations are required to use heavy-duty chemical resistant rubber or neoprene gloves and a face shield or goggles.

Statement of Practical Treatment

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

If inhaled: Remove victim to fresh air.

Note to Physician: There is no specific antidote. If swallowed, induce emesis or lavage stomach. The use of an aqueous slurry of activated charcoal should be considered.

Environmental Hazards

For terrestrial uses, 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 contaminate water when disposing of equipment wash waters. This pesticide contains atrazine, which has been shown to be toxic to aquatic invertebrates. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas.

Ground Water and Surface Water Advisory

Bicep contains both the active ingredients atrazine and metolachlor.

Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

Metolachlor has been identified in limited sampling of ground water and there is the possibility that it may leach through the soil to ground water, especially where soils are coarse and ground water is near the surface. Following application and during rainfall events that cause runoff, metolachlor may reach surface water bodies including streams, rivers, and reservoirs.

Care must be taken when using this product to prevent back siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates.

Check valves or antisiphoning devices must be used on all mixing equipment.

This product may not be mixed/loaded or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash-water, and rain-water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a

roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site.

States may have in effect additional requirements regarding well-head setbacks and operational area containment.

This product may not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66-foot buffer or setback from runoff entry points must be planted to crop or seeded with grass or other suitable crop.

AAtrex®, Beacon®, Bicep®, Caliber 90®, Concep®, Cycle®, Dual®, Nine-O® and Princep® trademarks of Ciba-Geigy Corporation
U.S. Patent Nos. 4,022,611 4,478,635

Agsorb® trademark of Oil-Dri Corporation

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Ciba Plant Protection
Ciba-Geigy Corporation
Greensboro, North Carolina 27419

CGA

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(Container Label)
RESTRICTED USE PESTICIDE
(GROUND AND SURFACE WATER CONCERNS)

FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

THIS PRODUCT IS A RESTRICTED-USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.

Bicep®
Herbicide

For weed control in corn
and grain or forage sorghum

Active Ingredients:

Atrazine*: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine	27.4%
Atrazine related compounds*	1.5%
Metolachlor: 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide	35.6%
Inert Ingredients:	35.5%
Total:	100.0%

*Bicep typically contains 2.67 lbs. atrazine + relateds per gallon.

2 1/2 Gallons
U.S. Standard Measure

KEEP OUT OF REACH OF CHILDREN

CAUTION

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing vapors or spray mists. Causes eye and skin irritation. May be a skin sensitizer. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Users are required to wear long-sleeved shirts and long pants (or equivalent), chemical resistant gloves, and waterproofed boots. In addition, persons involved in mixing/loading operations are required to use heavy-duty chemical resistant rubber or neoprene gloves and a face shield or goggles.

Statement of Practical Treatment:

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

If inhaled: Remove victim to fresh air.

Note to Physician: There is no specific antidote. If swallowed, induce emesis or lavage stomach. The use of an aqueous slurry of activated charcoal should be considered.

Environmental Hazards

For terrestrial uses, 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 contaminate water when disposing of equipment wash waters. This pesticide contains atrazine, which has been shown to be toxic to aquatic invertebrates. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas.

Ground Water and Surface Water Advisory

Bicep contains both the active ingredients atrazine and metolachlor.

Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

Metolachlor has been identified in limited sampling of ground water and there is the possibility that it may leach through the soil to ground water, especially where soils are coarse and ground water is near the surface. Following application and during rainfall events that cause runoff, metolachlor may reach surface water bodies including streams, rivers, and reservoirs.

Care must be taken when using this product to prevent back siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates.

Check valves or antisiphoning devices must be used on all mixing equipment.

This product may not be mixed/loaded or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes.*

This product may not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66-foot buffer or setback from runoff entry points must be planted to crop or seeded with grass or other suitable crop.

*For exceptions to this restriction, see the Environmental Hazards section of the Precautionary Statements in attached booklet.

Chemigation Prohibition

Do not apply this product through any type of irrigation system.

Container Disposal

Do not reuse empty container. Triple rinse (or equivalent), puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

See directions for use in attached booklet.

EPA Reg. No. 100-645

EPA Est. 100-LA-1

Bicep® trademark of Ciba-Geigy Corporation
U.S. Patent No. 4,022,611 (metolachlor)

Ciba Plant Protection
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Ciba-Geigy

CGA

December 8, 1983
Revised January 30, 1984
Revised December 10, 1984
Revised May 17, 1985
Revised October 17, 1985
Revised June 15, 1986
Revised June 15, 1987
Metolachlor Reg. Standard
Revised March 15, 1988
Removal of Endangered Species
Revised December 12, 1988
Revised June 22, 1989
Revised February 15, 1990
Atrazine reductions
Revised September 7, 1990
Low carrier volume application
Revised September 10, 1991
adm. amendments & name change to Bicep.
Revised March 27, 1992 - lower metolachlor content
Revised June 17, 1992 - atrazine surface water mitigation measures.
Revised December 1, 1992 - adm. amend. - tank mixture with Cycle
Revised June, 1993 - atrazine env. hazards wording, PR Notice 93-3, name and logo changes

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