

# **CORN - FINE SOIL - MINIMUM OR NO-TILLAGE - WEEDS CONTROL**

## General Information

### PRODUCT INFORMATION

Bicep II Magnum is a selective herbicide labeled for preplant, preemergence, or postemergence control of many annual grasses and broadleaf weeds in corn. Bicep II Magnum can also be used before crop emergence for control of most annual grasses and broadleaf weeds in grain or forage sorghum, provided the sorghum seed has been properly treated with Concep. Bicep II Magnum may be tank mixed with other herbicides for weed control in conventional, minimum-till, and no-till corn, grain sorghum, or forage sorghum.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions, limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

When tank mixing or sequentially applying atrazine or products containing atrazine to corn or sorghum, do not exceed an application rate of 2.0 pounds active ingredient of atrazine per acre for any single application and the total pounds of atrazine applied (lb ai per acre) must not exceed 2.5 pounds active ingredient per acre per year.

Following many years of continuous use of atrazine (one of the ingredients in Bicep II Magnum), 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, the use of Bicep II Magnum in combination or in sequence with registered herbicides which do not contain triazines may enhance product performance. Consult with your State Agricultural Extension Service for specific advice.

Bicep II Magnum alone or in tank mixture with AAtrex, Dual Magnum, Dual II

Magnum, or Princep may be applied early preplant, preplant surface, preplant incorporated, or preemergence on corn, in water or fluid fertilizer. Apply postemergence treatments of Bicep II Magnum to corn, alone or in combination, using water only as the carrier. Bicep II Magnum may be applied in tank mix combination with Gramoxone brands, or solo glyphosate brands, with or without the above herbicides preplant surface or preemergence to corn. Bicep II Magnum alone may also be applied on sorghum early preplant, preplant incorporated, preplant surface, or preemergence in water or in fluid fertilizer.

Bicep II Magnum may be applied in water by aircraft. Make applications in fluid fertilizer by ground equipment only.

#### USE PRECAUTIONS FOR ALL BICEP II MAGNUM APPLICATIONS

- 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 II Magnum or a tank mixture may reduce effectiveness. Cultivate if weeds develop in conventional tillage corn or sorghum.
- Avoid spray overlap, as crop injury may result.

#### RESTRICTIONS FOR ALL BICEP II MAGNUM APPLICATIONS

- Do not apply this product through any type of irrigation system.
- Do not apply under windy conditions or under conditions which favor runoff or wind erosion of soil containing this product to nontarget areas.
- Do not use a sprayer or applicator contaminated with other materials, or crop damage or sprayer clogging of the application device may occur. Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner.
- To prevent off-site movement due to runoff or wind erosion:
  - Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, ensure that the soil surface is settled by

rainfall or irrigation first.

- Do not apply to impervious substrates, such as paved or highly compacted surfaces.
- Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops, unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

## RESISTANT WEED MANAGEMENT

Bicep II Magnum herbicide contains the active ingredients atrazine which inhibits the photosynthetic pathway of photosystem II (PSII, Site of Action Group 5) and S-metolachlor which inhibits the formation of very long chain fatty acids (VLCFA, Site of Action Group 15). Some naturally-occurring weed populations have been identified as resistant to Group 5 and 15 herbicides. Selection of resistant biotypes, through repeated use of these herbicides or lower than labeled use rates in the same field, may result in weed control failures. A resistant biotype may be present where poor performance cannot be attributed to adverse environmental conditions or improper application methods. If resistance is suspected, contact your local Syngenta representative and/or agricultural advisor for assistance.

Principles of herbicide resistant weed management:

- Employ integrated weed management practices. Use multiple herbicide sites-of-action with overlapping weed spectrums in rotation, sequences, or mixtures.
- Use the full labeled herbicide rate and proper application timing for the hardest to control weed species present in the field.
- Scout fields after herbicide application to ensure control has been achieved. Avoid allowing weeds to reproduce by seed or to proliferate vegetatively.
- Monitor site and clean equipment between sites.
- Start with a clean field and control weeds early by using a burndown treatment or tillage in combination with a preemergence residual herbicide as appropriate. Use cultural practices such as cultivation and crop rotation, where appropriate.

- Use good agronomic principles that enhance crop competitiveness.

#### SOIL TEXTURE INFORMATION

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.

#### Weeds Controlled or Partially Controlled

1. In corn, apply up to the maximum single application rate in Table 1 or Table 2 for your given soil texture and rate limitation based on your soil conservation practices.
2. Thoroughly till moist soil to destroy germinating and emerged weeds. If Bicep II Magnum is to be applied preplant incorporated, this tillage may be used to incorporate Bicep II Magnum if uniform 2-inch incorporation is achieved as described under Application Procedures.
3. Plant crop into moist soil immediately after tillage. If Bicep II Magnum is to be used preemergence, apply at planting or immediately after planting.
4. 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 fine-textured soils.
5. 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 as soon as weeds emerge may improve control.

#### Bicep II Magnum 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 II Magnum contains 3.1 lb ai atrazine + related compounds per gal (0.775 lb ai/qt).

#### ATRAZINE USE RESTRICTIONS:

Bicep II Magnum contains both atrazine and S-metolachlor as active ingredients.

#### FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE

- On Highly Erodible Land (as defined by the Natural Resource Conservation Service)  
If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply a maximum of 2.58 qt/A of Bicep II Magnum (2.0 lb ai/A) as a broadcast spray.

If the soil coverage with plant residue is less than 30% at planting, a maximum of 2.1 qt/A of Bicep II Magnum (1.6 lb ai/A) may be applied.

- On Land Not Highly Erodible

Apply a maximum of 2.58 qt/A of Bicep II Magnum (2.0 lb ai/A) as a broadcast spray.

#### FOR POSTEMERGENCE APPLICATION OF ATRAZINE TO CORN

If no atrazine was applied prior to corn emergence, apply a maximum of 2.58 qt/A of Bicep II Magnum (2.0 lb ai/A) broadcast. If a postemergence treatment is required following an earlier atrazine application, the total atrazine applied may not exceed 2.5 lb active ingredient (3.2 qt of Bicep II Magnum) per acre per calendar year.

#### Replant and Rotational Crops

Replant Crops: 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. If the original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied.

Replant Crop Restriction: Do not make a second broadcast application to replanted crops.

Rotational Crops: Corn, sorghum, soybeans, cotton, or peanuts may be planted the spring following treatment.

Rotational Crop Restrictions: (1) Do not rotate to food or feed crops other than those listed above. (2) 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 lb ai of atrazine or equivalent band application rate. (3) 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. (4) Do not graze or feed forage or fodder from cotton to livestock.

Rotational Crop Precautions: (1) Injury may occur to soybeans planted the year following application on soils having a calcareous surface layer. (2) If Bicep II Magnum is applied after June 10, rotating to crops other than corn or sorghum the next year may result in crop injury. (3) Avoid planting sugar beets, tobacco, vegetables (including dry beans), spring-seeded small grains, or small-seeded legumes the year following Bicep II Magnum application, or crop injury may occur.

## Cover Crops

A cover crop can be an important tool for the overall farm cropping system. Cover crops are planted for conservation purposes, soil erosion control, soil health improvement, water quality improvement and weed management. A cover crop can be a single crop or a combination of crops, including grasses and/or broadleaf crops.

After harvest of a Bicep II Magnum treated crop, planting of a cover crop is allowed provided the cover crop is not grazed or fed to livestock nor harvested for food. Terminate the cover crop through natural causes such as frost or intentional termination by herbicide application, crimping, rolling, tillage or cutting.

All possible cover crops or cover crop combinations have not been tested for tolerance to Bicep II Magnum herbicide.

Before planting the cover crop, determine the level of tolerance for the intended cover crops by conducting a field bioassay. Refer to the Field Bioassay for Cover Crops section for instructions.

## Field Bioassay for Cover Crops

A field bioassay is a method of determining if herbicide residues are present in the soil at concentrations high enough to adversely affect crop growth.

Conduct the field bioassay by planting several strips of the desired cover crop across the field which has been previously treated with Bicep II Magnum. Plant the cover crop strips perpendicular to the direction of the Bicep II Magnum application. The strips should be located so that all the different field conditions are encountered, including differences in field terrain, soil texture, organic matter, pH, and drainage.

If the cover crop does not show adverse effects such as crop injury and/or stand reduction, the field can be planted to this cover crop. If injury and/or stand reduction are visible, wait two to four weeks for further herbicide degradation to occur and repeat the bioassay. Alternatively, select a different cover crop and repeat the bioassay. Only plant cover crops that show acceptable tolerance in the field bioassay.

## CORN AND SORGHUM USE PRECAUTIONS AND RESTRICTIONS

For purposes of calculating the amount of active ingredient applied, 1 qt Bicep II Magnum contains 0.775 lb ai atrazine + related compounds and 0.6 lb S-metolachlor.

To determine the combined total lb ai of atrazine or S-metolachlor per acre resulting from all products, use the following 2-step method:

- A. Determine the lb ai of atrazine or S-metolachlor applied as Bicep II Magnum (1.0 qt = 0.775 lb ai atrazine + related compounds and 0.6 lb ai S-metolachlor); then,
- B. If Dual Magnum, Dual II Magnum or any other source of S-metolachlor is to be used, add the lb ai S-metolachlor to be applied in these products to the lb ai S-metolachlor in Step A above; or if AAtrex or any other source of atrazine is to be used, add the lb ai atrazine to be applied in these products to the lb ai atrazine + related compounds in Step A above.

## Restrictions for All Bicep II Magnum Corn Applications

- The combined amount of Bicep II Magnum resulting from all applications to corn must not exceed a total of 3.23 qt/A per calendar year.
- When tank mixing or sequentially applying atrazine or products containing atrazine, such as AAtrex, do not exceed a single application rate of 2.0 pounds active ingredient of atrazine (2.58 qt Bicep II Magnum) per acre.
- When tank mixing or sequentially applying atrazine or products containing atrazine, such as AAtrex, the total pounds of atrazine applied (lb ai) must not exceed 2.5 lb per acre per calendar year.
- If other products containing S-metolachlor, such as Dual Magnum or Dual II Magnum, have been applied, the combined total amount of S-metolachlor resulting from all applications must not exceed 3.75 lb per acre per calendar year.
- Do not graze or feed field corn forage from treated areas for 60 days or sweet corn forage for 45 days following Bicep II Magnum application.
- Preharvest Interval (PHI): Do not harvest sweet corn ears from treated areas for 30 days following Bicep II Magnum application.

#### Precautions for All Bicep II Magnum Sorghum Applications

- If sorghum seed is not properly pretreated with Concep, application of Bicep II Magnum will result in severe crop injury or death.
- Injury may occur to sorghum following the use of Bicep II Magnum under abnormally high soil moisture conditions during early development of the crop.

#### Restrictions for All Bicep II Magnum Sorghum Applications

- The combined amount of Bicep II Magnum resulting from all applications to sorghum must not exceed a total of 2.58 qt/A per calendar year.
- When tank mixing or sequentially applying atrazine or products containing atrazine, such as AAtrex, do not exceed a single application rate of 2.0 pounds active ingredient of atrazine (2.58 qt Bicep II Magnum) per acre.
- When tank mixing or sequentially applying atrazine or products containing atrazine, such as AAtrex, the total pounds of atrazine applied (lb ai) must not



exceed 2.5 lb per acre per calendar year.

- If other products containing S-metolachlor, such as Dual Magnum or Dual II Magnum, have been applied, the combined total amount of S-metolachlor resulting from all applications must not exceed 1.7 lb per acre per calendar year.
- Do not graze or feed sorghum forage for 60 days following preemergence Bicep II Magnum use.
- Preharvest Interval (PHI): Do not harvest grain sorghum from treated areas for 75 days following Bicep II Magnum application.

#### Limitations, Restrictions, and Exceptions

Tank Mixture of Bicep II Magnum Alone or Bicep II Magnum + AAtrex, Dual Magnum, Dual II Magnum, or Princep, with Gramoxone Brands, or Solo Glyphosate Brands

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, tank mix the contact herbicides Gramoxone brands, or solo glyphosate brands with Bicep II Magnum alone or with Bicep II Magnum + AAtrex, Dual Magnum, Dual II Magnum, or Princep. When used as directed, the Gramoxone brands portion of the tank mixture controls most emerged annual weeds and suppresses many perennial weeds. Solo glyphosate brands will control emerged annual and perennial weeds when applied as directed on its label. The Bicep II Magnum portion of the tank mixture provides preemergence control of the weeds listed on this label in the Bicep II Magnum Alone section for corn. The addition of AAtrex, Dual Magnum, Dual II Magnum, or Princep offers the advantage indicated above.

Application: Apply before, during, or after planting, but before corn emerges, at the appropriate rate in Table 8. Up to 0.75 qt of AAtrex 4L (0.8 lb of Nine-O), or 0.33 pt of Dual Magnum or Dual II Magnum or 1.0 qt of Princep 4L (1.1 lb of Caliber 90) per acre may be added to the rate of Bicep II Magnum labeled in Table 8. Add Gramoxone brands or solo glyphosate brands at labeled rates.

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

Tank Mixture of Bicep II Magnum Alone or Bicep II Magnum + AAtrex, or with 2,4-D or 2,4-D + Banvel

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 II Magnum may be applied in combination with AAtrex. When used as directed, the Bicep II Magnum portion of the tank mixture provides preemergence control of the weeds listed on this label in the Bicep II Magnum Alone section for corn.

Application: Apply Bicep II Magnum before, during, or after planting, but before corn emerges, at the appropriate rate in Table 8. Up to 0.75 qt of AAtrex 4L (0.8 lb of Nine-O) per acre may be added to the rate of Bicep II Magnum labeled in Table 8.

For control of broadleaf weeds or 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 gal of carrier per acre.

As carriers, nitrogen solutions and complete liquid fertilizers, applied before corn emergence, enhance burndown of existing weeds, and therefore, are preferred instead of water. Add a non-ionic surfactant (NIS) at 1.0-2.0 qt/100 gal of diluted spray, or another surfactant cleared for use on growing crops at its labeled 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 brands at the rate of 2.5 pt/A in place of, or in addition to, 2,4-D as indicated above. Do not apply Gramoxone brands in suspension-type liquid fertilizer. Observe all directions for use, precautions, restrictions and limitations on the respective product labels when applying these products in tank mix combination.

#### Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Rates

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Restricted Entry Interval

24 hours

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Soils

[Fine](#)

[Silty Clay Loam](#)

[Sandy Clay Loam](#)

[Silty Clay](#)

[Sandy Clay](#)

[Clay Loam](#)

[Clay](#)

Tillages

[No-Tillage](#)

[Minimum](#)

Timings

[At-Plant](#)

[Preemergence \(Crop\)](#)

[Preplant](#)