

# **CORN - PREPLANT / PREEMEREGNCE APPLICATION - GREATER THAN 3% ORGANIC MATTER - MEDIUM**

## General Information

### RESISTANCE MANAGEMENT

#### Mode of action

Anthem ATZ contains pyroxasulfone which acts to inhibit very long chain fatty acid synthesis as a Group 15 (WSSA)/ Group K3 (HRAC) herbicide. It is a root and shoot growth inhibitor that controls susceptible germinating seedlings before or soon after they emerge from the soil.

Any weed population may contain or develop plants naturally resistant to pyroxasulfone and other Group 15 herbicides. Weed species with resistance to Group 15 may eventually dominate the weed population if Group 15 herbicides are used repeatedly in the same in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by pyroxasulfone or other Group 15 herbicides.

#### Resistant Weeds

Some weeds are known to develop resistance to herbicides that have been used repeatedly. While the development of resistance is well understood, it is not easily predicted. Therefore herbicides should be used in conjunction with resistance management strategies in the area.

Consult the local or State agricultural advisors for details. If weed resistance should develop in the area, this product used alone may not continue to provide sufficient levels of weed control. If the reduced levels of control cannot be attributed to improper application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain may have developed. To reduce the potential for weed resistance, use this product in a rotation program with other classes of chemistry and modes of action. Always apply this product at the recommended rates and in accordance with the use directions. For optimum performance, scout fields carefully and begin applications when weeds are smaller rather than larger. If

resistance is suspected, contact the local or State agricultural advisors.

### Glyphosate Resistant Weeds

Some populations of weeds may be tolerant or resistant to glyphosate based herbicides. Applying ANTHEM ATZ in a tank mixture with glyphosate for control of emerged resistant weeds larger than specified in table 6 may result in unsatisfactory control. Follow all directions, restrictions and precautions on the EPA-approved label for each product in the tank mixture.

### PRODUCT INFORMATION

ANTHEM ATZ can be applied in all tillage systems (conventional, reduced and no-tillage). ANTHEM ATZ can be applied in the fall or in the spring as a preplant, pre plant incorporated, preemergence, or early post emergence treatment for susceptible grass and broadleaf weeds in field corn, seed corn, sweet corn and popcorn.

#### Weed Size:

When applying ANTHEM ATZ alone for post emergent weed control, apply before the weeds have reached the maximum height listed in Table 6. Application after weeds have reached the listed maximum height for control could result in commercially unacceptable weed control.

For control of weeds in post applications larger than listed in Table 6 and for wider spectrum, apply in tank-mixture with herbicide(s) that are labeled for control of targeted weeds. Uniform spray coverage is necessary for optimum performance.

#### Application Instructions and Timings

Moisture is necessary to activate the active ingredient pyroxasulfone in soil for weed control. Dry weather following applications of ANTHEM ATZ may reduce effectiveness. However, when adequate moisture is received after dry conditions, ANTHEM ATZ will control susceptible germinating weeds. ANTHEM ATZ may not control weeds that germinate after application but before an activating rainfall/irrigation of at least ½ inch, or weeds that germinate through cracks resulting from dry soil.

When adequate moisture is not received after ANTHEM ATZ application, weed

control may be improved by irrigation. Do not use on peat or muck soils and mineral soils with 10% or more organic matter content.

Refer to the crop specific information section for specific application rates, timings and the restrictions and limitations by crop and use pattern.

Crop seeds must be planted a minimum of 1 inch deep.

Application Precautions for Post Emergence Applications:

1. If applying ANTHEM ATZ post emergence, avoid applications when crop foliage is wet due to heavy dew, rain, or irrigation moisture. If ANTHEM ATZ is applied post emergence, shortly before or soon after rainfall, crop response can occur. Recovery from this response is rapid and normal growth is not delayed. Crop yields will not be impacted by this crop response.
2. Do not apply if crop is under severe stress due to drought, cold weather, hail, flooding, water-logged or compacted soil, disease, insect damage, nutrient deficiency (especially low nitrogen levels), or other causes.
3. Do not tank mix any chlorpyrifos containing insecticide with ANTHEM ATZ in post applications, as crop response can occur.
4. Do not irrigate within 4 hours of a post emergence application of ANTHEM ATZ. Rainfall or irrigation within 1 hour may wash ANTHEM ATZ off of the weeds during this period and may reduce post emergence performance.
5. Observe all precautions and limitations on the label of each product used in tank mixture with ANTHEM ATZ.

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 covering with plant residues at planting, apply a maximum of 2 lbs. of atrazine/A as a broadcast spray. (Maximum of 64 oz of ANTHEM ATZ)
- If soil coverage with plant residue is less than 30% at planting, a maximum of 1.6

lbs. of atrazine/A may be applied. (Maximum of 51 oz of ANTHEM ATZ)

On Land Not Highly Erodible

Apply a maximum of 2 lbs. of atrazine/A as a broadcast spray. (Maximum of 64 oz of ANTHEM ATZ)

#### FOR POSTEMERGENCE APPLICATIONS TO CORN

If no atrazine was applied prior to corn emergence, a maximum of 2 lbs. ai. /A may be applied postemergence. If a postemergence treatment is required following an earlier herbicide application containing atrazine, the total atrazine applied may not exceed 2.5 lbs. ai. per acre per calendar year.

For all tank mixtures and sequential treatment of products containing atrazine, the total lbs a.i. of atrazine applied cannot exceed 2.5 lbs. active ingredient per year.

#### APPLICATION INFORMATION AND CROP RESTRICTION/LIMITATIONS

Maximum seasonal use rates:

On coarse textured soils do not apply more than a total of 39 ounces of ANTHEM ATZ (0.148 lb ai of pyroxasulfone) per acre on coarse textured soils per cropping season.

On all other soils other than coarse, do not apply more than a total of 70.46 ounces of ANTHEM ATZ (0.267 lb ai of pyroxasulfone) per acre per season.

Do not apply more than 0.0089 lb ai/A of fluthiacet methyl or 0.268 lb ai/A of pyroxasulfone per acre in a twelve month cropping year including preplant burndown. ANTHEM ATZ may be used prior to, or after applications of other pyroxasulfone or fluthiacet methyl containing herbicides.

When using ANTHEM ATZ in sequential programs, do not exceed the maximum amount of either ingredient per cropping year for the soil textures as specified above.

#### Ground Application

Use sufficient spray pressure and spray volume for accurate and uniform application. Refer to instructions for the spray equipment used to determine the

actual minimum volume. The carrier may be either water or a sprayable fluid fertilizer. Do not apply this product without dilution in a spray carrier. Apply ANTHEM ATZ in a minimum of 10 gallons of finished spray solution per acre. or 20 or more gallons of sprayable fluid nitrogen fertilizer per treated acre for weed control applications. For postemergence applications, apply F9316-2 in a minimum of 10 gallons per acre of finished spray solution. If a dense crop and/or weed canopy is present, use up to 40 gallons of spray solution per acre.

#### Restrictions

- Do not apply ANTHEM ATZ by aerial equipment.
- Do not apply this product through any type of irrigation system.
- Do not harvest field corn for forage within 60 days of the last application of ANTHEM ATZ Herbicide.
- Do not harvest or feed corn grain or stover (fodder) within 70 days after the last application of ANTHEM ATZ Herbicide.
- Do not harvest sweet corn ears within 45 days of the last application of ANTHEM ATZ Herbicide.
- Do not harvest sweet corn for forage within 45 days after the last Anthem ATZ application.
- Do not use flood irrigation to apply, activate or incorporate this product.
- Do not make more than 1 preemergence application to spring corn.

#### Limitations, Restrictions, and Exceptions

Fall Applications for controlling weeds germinating the following spring Anthem ATZ may be applied in the fall to control weeds in conventional, minimum tillage, or no-till corn production systems planted the following spring. This fall application program will typically need to be followed with a suitable in-season postemergence herbicide treatment to provide season long control of the complete target weed spectrum.

Fall Applications for controlling weeds germinating in the fall or winter annual weeds ANTHEM ATZ may be applied in the fall for burndown and residual control.

For control of emerged weeds in the fall use combinations with other burndown herbicides like Aim, 2,4-D, glyphosate, paraquat or glufosinate.

Follow all directions, restrictions and precautions on the EPA approved label for each product in the tank mixture. If a sequential application program (fall application followed by spring application of ANTHEM ATZ) is used the maximum combined rate of ANTHEM ATZ should not exceed 70.46 oz/A. Do not exceed 2 inch incorporation depth if tilled after application to maintain sufficient herbicide barrier in the weed germination zone. Use the highest rate within soil type. Anthem ATZ may be broadcast surface applied in the fall after crop harvest when soil temperatures at the 4-inch depth are sustained at less than 55° F and before the ground freezes to control weeds in minimum or no tillage fields planted the following spring. Fall applications must be made after October 1. Do not apply to frozen or snow covered soil.

Preplant, preemergence and early preplant applications: ANTHEM ATZ may be applied prior to planting up to crop emergence.

Apply ANTHEM ATZ alone or in tank mixtures, up to 45 days before planting. When sprayed at early preplant (15-45 days prior to planting), use the highest rate recommended for the specific soil texture. Preplant surface applications are not recommended on coarse soils, in areas where average annual rainfall (or rainfall + irrigation) typically exceeds 40 inches, or for popcorn or sweet corn. Cultivation or a labeled postemergence herbicide application may still be required under certain conditions for complete weed control.

If weeds are present at the time of application, use of additional weed control methods such as tank mixes with an appropriate postemergence herbicide(s) to control emerged weeds.

Preplant incorporated (PPI) applications:

For PPI applications of ANTHEM ATZ incorporate into the upper (1-2") soil surface up to 14 days before planting. Deeper incorporation may increase the potential for crop injury and also may result in reduced weed control. Use appropriate

equipment that provides uniform shallow incorporation, such as a field cultivator, harrow, rolling cultivator or finishing disc.

#### Early Post planting Applications:

In corn, apply ANTHEM ATZ from crop emergence up to V4 stage (visible 4th leaf collar). The amount of ANTHEM ATZ to apply and the degree of weed control resulting from a ANTHEM ATZ application depends upon a variety of factors such as weeds present, stage of growth of the weeds, environmental conditions, growing conditions and soil type.

Under high moisture conditions the crop may experience some temporary crop response. The crop will rapidly outgrow these effects and develop normally with no reduction in yield.

Before applying to corn, verification of ANTHEM ATZ selectivity on your inbred line or hybrid line must be confirmed with your local seed company or supplier to avoid injury to sensitive inbred lines or hybrids.

#### Split applications

ANTHEM ATZ can be applied in sequential programs, but do not exceed the maximum use rate per cropping season. On medium and fine textured soils in early preplant and fall applications, use a minimum of 20 oz/A followed by a second application at a minimum of 20 oz/A. Do not apply a split application on a coarse textured soils. On medium and fine textured soils, do not apply more than a total of 70.46 ounces of ANTHEM ATZ (2.480 lb ai) per acre per season. Where weeds are emerged use appropriate tank mixtures for control of the weed species present.

ANTHEM ATZ may be used following an earlier application of ANTHEM herbicide during the same cropping season. When ANTHEM ATZ is applied to the soil, it may be followed with ANTHEM herbicide at a minimum rate of 5 oz/A. See the ANTHEM label for the use rates and use directions.

#### Method

[Broadcast/Foliar Ground](#)

[Soil incorporation](#)

[Broadcast/Foliar Ground](#)

[Soil incorporation](#)

[Broadcast/Foliar Ground](#)

## Soil incorporation

Rates

field rates 0

field rates 1

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Restricted Entry Interval

12 hours

Soils

Medium

Loam

Silt Loam

Silt

Sandy Clay Loam

Timings

Preemergence (Crop)

Preplant

Preplant Incorporated