

## **CORN - PREPLANT/PREEMERGENCE - MEDIUM - 1.0% TO 3.0%**

### General Information

### RESISTANCE MANAGEMENT

#### Mode of action

Anthem Herbicide 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. Anthem Herbicide also contains fluthiacet-methyl which is a protoporphyrinogen oxidase (PPO) Group 14 (WSSA) inhibitor herbicide that is active on emerged weeds.

Any weed population may contain or develop plants naturally resistant to pyroxasulfone, fluthiacet-methyl and other Group 14 or 15 herbicides. Weed species with resistance to 14 or Group 15 may eventually dominate the weed population if Groups 14 or 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, fluthiacet-methyl or other Group 14 or 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 herbicide resistance strategies. 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 small. 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 in a tank mixture with glyphosate for control of emerged resistant weeds larger than specified in Table 6 in a postemergence application 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 can be applied in all tillage systems (conventional, reduced and no-tillage). ANTHEM 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, popcorn & soybeans. Anthem may also be used in double cropping and multiple relay inter-cropping.

#### Weed Size:

When applying ANTHEM alone for post emergent weed control, apply before the weeds have reached the maximum height listed in Table 9. 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 9 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 may reduce effectiveness. However, when adequate moisture is received after dry conditions, ANTHEM will control susceptible germinating weeds. ANTHEM 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 application, weed control

may be improved by irrigation. Do not use on peat or muck soils or 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.

#### Application Precautions for Post Emergence Applications:

1. If applying ANTHEM post emergence, avoid applications when crop foliage is wet due to heavy dew, rain, or irrigation moisture. If ANTHEM 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 in post applications as crop injury might occur.
4. Do not irrigate within 4 hours of a post emergence application of ANTHEM. Rainfall or irrigation within 1 hour may wash ANTHEM 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.

#### Restrictions

- Do not apply this product through any type of irrigation system.
- Do not use flood irrigation to apply, activate or incorporate this product.
- Do not make more than 1 preemergence application to spring corn & soybeans.
- Do not harvest or feed field corn forage until 30 days after the last application of ANTHEM Herbicide.
- Do not harvest or feed sweet corn forage or ears until 40 days after the last application of ANTHEM Herbicide.

- Do not harvest or feed corn grain or stover (fodder) until 70 days after the last application of ANTHEM Herbicide.
- Do not graze or feed treated soybean forage or hay to livestock.

### 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 in a minimum of 5 gallons of water per acre or 10 or more gallons of sprayable fluid nitrogen fertilizer per treated acre for weed control applications. For postemergence applications, apply Anthem 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.

### Aerial Application

Use nozzle types and arrangement that will provide optimum coverage and minimize drift potential. Apply with a minimum of 3 gallons per acre of finished spray solution. For dense weed populations or heavy crop canopy, a higher spray volume may be required to obtain adequate spray coverage.

### Proper Handling Instructions

This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.

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 rainwater 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 specific 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 wellhead setbacks and operational containment.

This product must be used in a manner which will prevent back siphoning into wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

#### Limitations, Restrictions, and Exceptions

Fall Applications for controlling weeds germinating in the fall or winter annual weeds

ANTHEM 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, dicamba, 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) is used the maximum combined rate of ANTHEM must not exceed 16.3 fl oz/A (0.274 total lbs of active ingredients/A containing 0.266 lb ai of pyroxasulfone and 0.008 lb ai of fluthiacet-methyl) for corn and 11.4 fl oz/A (0.192 total lbs of active ingredients/A containing 0.186 lb ai of pyroxasulfone and 0.006 lb ai of fluthiacet-methyl) per use season in soybeans. Do not exceed 2 inch incorporation depth if tilled after application. Use the highest rate within soil type. ANTHEM 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 may be applied prior to planting up to crop emergence. Apply ANTHEM

alone or in tank mixtures, up to 45 days before planting. See specific crop sections for further directions and use rates. 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 and follow all label directions, rates, restrictions, and precautions on the tank mixture partner labeling.

#### Preplant incorporated (PPI) applications

For PPI applications of ANTHEM 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 emergence applications

In corn, apply ANTHEM from crop emergence through V4 stage (visible 4th leaf collar). In soybeans, apply ANTHEM from planting through the third trifoliolate (V3) leaf stage. The amount of ANTHEM to apply and the degree of weed control resulting from a ANTHEM 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 selectivity on your inbred line or hybrid line must be confirmed with your local seed company or supplier to avoid injury to sensitive inbreds or hybrids.

#### Split applications

ANTHEM can be applied in sequential programs, but do not exceed the maximum

use rate per cropping season. In early preplant and fall applications use a minimum of 5 oz/A followed by a second application at a minimum of 5 oz/A. Do not exceed a maximum of 16.3 fl oz/A (0.274 lb ai/A containing 0.266 lb ai of pyroxasulfone and 0.008 lb ai of fluthiacetmethyl) per use season in corn and on coarse soils do not apply more than a maximum cumulative amount of 6.8 ozs/A of Anthem (containing 0.111 lb ai of pyroxasulfone and 0.0033 lb ai of fluthiacet-methyl) per cropping season in soybeans. On other soybean soils do not apply more than a cumulative amount of 11.4 fl oz/A (0.192 lb ai/A containing 0.186 lb ai of pyroxasulfone and 0.006 lb ai of fluthiacet-methyl) per cropping season in soybeans.

Where weeds are emerged, use appropriate tank mixtures for control of the weed species present. Separate sequential applications by at least 14 days.

Use rates listed above are for control or suppression of weeds listed in section 19.

- For early preplant applications and/or in reduce tillage (i.e. no-till/ high residue) systems or heavy weed pressure use the higher labeled rate by the soil type.

- For fine texture soils with organic matter >3% use up to 13 oz/A.

Method

[Broadcast/Foliar Ground](#)

[Seed Treatment](#)

[Broadcast/Foliar Ground](#)

[Seed Treatment](#)

[Broadcast/Foliar Ground](#)

[Seed Treatment](#)

[Broadcast/Foliar Ground](#)

[Seed Treatment](#)

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](#)

Tillages

[Conventional](#)

[No-Tillage](#)

[Minimum](#)

Timings

[Preemergence \(Crop\)](#)

[Preplant](#)

[Preplant Incorporated](#)

[Preemergence \(Weed\)](#)