Anthem® Flex Herbicide is used to Control Resistant Italian Ryegrass in Winter Wheat

Anthem Flex herbicide provides control for wheat growers who need to control resistant annual ryegrass. Italian ryegrass (*Lolium perenne ssp. Multiflorum*) is one of the most troublesome weeds in Arkansas winter wheat production. Ryegrass is very competitive because it tillers extensively resulting in significant wheat yield losses, grain quality reduction and lodging (Carson et al. 1999; Hashem et al. 1998). Heavy ryegrass infestations can reduce wheat yields up to 92 percent (Hashem et al. 1998). Bararpour et al. (2012) reported the natural infestation of Italian ryegrass in Arkansas reduced wheat yield an average of 75 percent. Annual losses from this pest in this region run in the millions of dollars.

Product Information:
Anthem Flex herbicide from FMC provides residual control of grasses and broadleaf weeds in winter and spring wheat. This low-use-rate herbicide has a wide application window and comes in an easy-to-mix formulation.

With more flexibility and no known resistance issues, Anthem Flex herbicide is an excellent weed management tool. Anthem Flex herbicide is even effective at controlling weeds with known resistance to glyphosate and ALS herbicides.

Target Weeds:
Anthem Flex herbicide is effective against a wide range of weeds. Here are some examples:
- Annual bluegrass
- Palmer amaranth
- Chickweed
- Rattail fescue
- Crabgrass
- Palmer pigweed
- Downy brome
- Yellow foxtail
- Italian ryegrass
- Waterhemp

The Problem When Controlling Resistant Ryegrass
For Anthem Flex herbicide to be most effective on ryegrass, it should be applied prior to weed emergence. The problem with controlling ryegrass is the seed begins to germinate in the fall as soil temperatures cool and rainfall returns to the region. This also happens to be at the same time wheat is being planted so you end up with wheat and ryegrass emerging together. The Anthem Flex herbicide section 3 label only allows the product to be applied either delayed preemergence or early postemergence so you could have ryegrass emerge prior to application.

The Solution For Controlling Resistant Ryegrass
In Arkansas, if growers choose to accept the liability of an at-plant application of Anthem Flex herbicide in wheat, they may choose to use an Arkansas state SLN 24(c) label that allows the use of Anthem Flex herbicide at-planting. See SLN AR15-00015 label attached.

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RESIDUAL CONTROL OF GRASSES AND BROADLEAF WEEDS IN WINTER WHEAT

ANTHEM® FLEX HERBICIDE IS THE CORNERSTONE OF YOUR ITALIAN RYEGRASS MANAGEMENT PROGRAM IN WINTER WHEAT.

Anthem® Flex Herbicide Benefits:
- Flexible application timing: May be applied delayed preemergence through fourth tiller growth stage.
- Excellent crop safety in winter wheat.
- Flexible use rates: 2.0-4.5 oz./A depending on soil type.
- Long residual control of Italian ryegrass, annual bluegrass and crabgrass.
- Flexible application methods: Ground or aerial
- Use across most soil types and tillage practices.
- Flexible rotational restrictions.
- Stronger, longer control and suppression of broadleaves most grass herbicides cannot match.
- Mixes easily with other labeled herbicides and insecticides.
- Limited soil pH restrictions.
- Excellent resistance management tool.

Application Recommendations
- Do not apply to broadcast seeded wheat.
- Plant wheat a minimum of 1 inch deep.
- Do not plant wheat over 1.5 inches deep.
- Apply prior to weed germination.
- Anthem Flex herbicide must be activated to provide control. 0.5 inch of rain or light incorporation required to activate.
- May be tank mixed with most post emerge herbicides.
- Adjuvant is recommended if not contained within the tank mix product, minimum of an NIS at 0.25% V/V

Application Timing
- At-Plant
  - Apply at-planting only in Arkansas under Special Local Needs label.
  - See attached Arkansas SLN Label - AR15-0005 for use directions.

Application Timing – Delayed Preemergence
- Apply as a broadcast spray to the soil surface following wheat planting when 80% of germinated wheat seed have a shoot at least ½ inch long until spiking.
- Ground or aerial application.

Application Timing – Post Plant
- Apply as a broadcast spray to wheat at spiking up to fourth tiller growth stage.
- Can be apply in a tank mix with postemergence herbicides for broader-spectrum grass and broadleaf control.

<table>
<thead>
<tr>
<th>Application Timing</th>
<th>Use Rate (oz./A) by Soil Texture</th>
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<tbody>
<tr>
<td></td>
<td>Anthem Flex Herbicide fl. oz /A</td>
</tr>
<tr>
<td></td>
<td>Coarse</td>
</tr>
<tr>
<td>Delayed Preemergence</td>
<td>2.0-2.7</td>
</tr>
<tr>
<td>Early Postemergence</td>
<td>2.0-2.7</td>
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SPECIAL LOCAL NEED
FIFRA SECTION 24(c) LABEL TO MANAGE
RESISTANT ITALIAN RYEGRASS
IN WINTER WHEAT

FOR DISTRIBUTION AND USE ONLY IN ARKANSAS

This label for ANTHEM FLEX HERBICIDE is valid from October 5, 2015 until October 5, 2020 unless withdrawn, cancelled or suspended.

EPA Reg. No. 279-3464
EPA SLN No. AR15-0005

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING. ALL APPLICABLE DIRECTIONS, RESTRICTIONS, AND PRECAUTIONS ON THE EPA REGISTERED ANTHEM FLEX HERBICIDE LABEL (EPA REG. NO. 279-3464) MUST BE FOLLOWED. THIS LABEL MUST BE IN THE POSSESSION OF THE USER AT TIME OF APPLICATION.

Winter Wheat

Application Information

<table>
<thead>
<tr>
<th>Application Timing</th>
<th>Coarse</th>
<th>Medium</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preemergence</td>
<td>2.0 – 2.7</td>
<td>2.75 – 3.5</td>
<td>3.5 – 4.5</td>
</tr>
</tbody>
</table>

Preemergence Application

Anthem Flex herbicide may be applied to wheat as a preemergence treatment from 2.0-4.5 fl. oz./A depending on soil type. Apply at planting prior to wheat spike as a preemerge soil application.

When applied according to directions, Anthem Flex herbicide will provide preemergence control of: ALS-resistant, ACCase-resistant, and glyphosate-resistant Italian ryegrass
Precautions
Under extended periods of dry weather, adequate weed control may not be achieved. Rainfall and/or irrigation totaling at least 0.5 inch prior to weed emergence may be necessary for herbicide activation and optimum weed control.

Restrictions
- Do not apply preplant incorporated in wheat.
- Do not apply to broadcast seeded wheat.
- Do not apply preemergence if ¼ inch or more of rain is expected within 48 hours of application.
- Plant wheat at a minimum of 1 inch deep.
- Do not plant wheat over 1.5 inches deep.
- Do not apply more than a maximum cumulative amount of 4.55 fl oz/A (0.142 lb ai/A containing 0.133 lb ai of pyroxasulfone and 0.0095 lb ai of carfentrazone) of Anthem FLEX per year.

MANUFACTURER’S CONDITIONS AND RISK OF USE FOR FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT (FIFRA) SECTION 24(c) REGISTRATION

NOTICE: This Section 24(c) label will only be utilized by growers located in the State of Arkansas. SUCH GROWER USERS AGREE FMC CORPORATION WILL NOT BE HELD RESPONSIBLE FOR FAILURE TO PERFORM AND/OR CROP RESPONSE AND OR YIELD LOSSES RESULTING FROM THE USE OF ANTHEM FLEX HERBICIDE AS A PRE-E MERGE TREATMENT TO WINTER WHEAT. Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability on the commercial Anthem Flex Herbicide section 3 label and this 24(c) label before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product shall be followed carefully.

These Conditions and Risks of Use for FIFRA Section 24(c) Registration are required by FMC Corporation.

USE OF ANTHEM FLEX HERBICIDE ON WINTER WHEAT IN ACCORDANCE WITH THIS LABELING MAY RESULT IN FAILURE TO PERFORM, CROP INJURY, CROP YIELD REDUCTION AND/OR CROP LOSS. READ AND UNDERSTAND THESE CONDITIONS AND RISKS OF USE FOR SECTION 24(c) REGISTRATION BEFORE USING THIS PRODUCT ON THE CROP. FMC Corporation recommends that the user and/or grower test product in order to determine its suitability for such intended use.

FMC Corporation makes the Product available for use in the manner described in this Labeling on the basis that, in the sole opinion of the user, the benefits and utility derived from the use of the Product on the Crop outweigh the potential risk of failure to perform, Crop injury, Crop yield reduction or Crop loss. The decision to use the Product in the manner described in the Labeling must be made by each individual user on the basis of anticipated benefits versus (i) the potential risk of failure to perform, Crop injury, Crop yield reduction and Crop loss, (ii) the severity of the target pest infestation, (iii) the cost and availability of alternative pest controls and (iv) any other relevant factors.

By purchasing the Product for use, or using the Product, in the manner described in this Labeling, you acknowledge and accept that, to the extent consistent with applicable law:

1. you assume all risk of failure to perform, Crop injury, Crop yield reduction and Crop loss;
2. FMC Corporation does not make, and does not authorize any agent or representative to make, any representations or recommendations regarding the use of this Product on the Crop other than the statements on this Labeling;
3. FMC Corporation does not make, and does not authorize any agent or representative to make, any warranties, expressed or implied, with respect to the use of the Product on the Crop and disclaim all warranties, expressed or implied, including any implied warranty;
4. FMC Corporation disclaims all liability for any damages, losses, expenses, claims or causes of actions arising out of or relating to failure to perform, Crop injury, Crop yield reductions and/or Crop loss, including without limitation incidental, consequential or special damages;
5. these Conditions and Risks of Use for Section 24(c) Registration supersede any contrary representations or recommendations by FMC Corporation, its agents or representatives, and any provisions in or on any Product literature or labeling including any provisions on the label affixed to the Product container.

If these Conditions and Risk of Use for FIFRA Section 24(c) Registration are not acceptable, the unopened Product may be returned to the seller for a refund or used for a different labeled use in accordance with the label affixed to the Product container.

This Conditions and Risk of Use for Federal Insecticide Fungicide and Rodenticide Act (FIFRA) Section 24(C) Registration may not be amended by any oral or written agreement.

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