

# **COAXIUM WINTER WHEAT WITH THE AXIGEN TRAIT - WEEDS CONTROLLED AT 8-12 FL OZ PER ACRE**

## General Information

### ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

AGGRESSOR is a systemic grass herbicide designed for use only with the CoAxiom Wheat Production System and wheat varieties certified to contain the AXigen trait. AGGRESSOR is rapidly absorbed by treated foliage and translocated to the roots and other growing points of the plant. When affected, younger plant tissues become chlorotic/necrotic and eventually die, leaving treated plants stunted and noncompetitive. In general, these symptoms are first observed within 7 to 14 days after application depending on the grass species treated and the environmental conditions.

Use of AGGRESSOR on non-CoAXium wheat varieties without the AXigen trait will result in permanent crop damage to the non-tolerant wheat variety.

The degree of control and duration of the effect of AGGRESSOR depends upon the rate used, weed spectrum, weed size and variability, growing conditions at and following treatment, soil moisture, precipitation, tank mixtures, and spray adjuvant used.

Conditions conducive to healthy, actively growing plants optimize the performance of AGGRESSOR.

Unacceptable control may occur if AGGRESSOR is applied to grasses stressed from:

- Abnormal weather (excessive heat or cold, or widely fluctuating temperatures),
- Hail damage,
- Drought,
- Water saturated soils,
- Mechanical injury, or
- Prior herbicide injury.

Grasses under these conditions are often less sensitive to herbicide activity. Delay application until the stress passes and weeds and crop resume growth.

Before making applications of AGGRESSOR to crops previously under stress, or injured from other pesticide applications, the crop needs to be fully recovered and growing vigorously.

AGGRESSOR is rainfast 1 hour after application.

#### IMPORTANT PRECAUTIONS

Injury to or loss of desirable trees, vegetation, or adjacent sensitive crops may result from failure to observe the following:

- Prevent drift of spray to desirable plants.
- Take all necessary precautions to avoid all direct or indirect contact (such as spray drift) with non-target plants or areas. Most grass crops, including barley, rye, oats, sorghum, rice, and corn are highly sensitive to AGGRESSOR.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than those included in the crop rotation section.

#### RESTRICTIONS:

- Do not contaminate any body of water.
- Do not apply this product through any type of irrigation system.

Albaugh will not be responsible for losses or damages resulting from the use of this product in any manner not specifically instructed by Albaugh.

#### APPLICATION INFORMATION

Only use AGGRESSOR on CoAxiom Wheat certified to have the AXigen trait. AGGRESSOR is a selective grass herbicide that controls annual and perennial grasses only in CoAxiom Wheat varieties with the AXigen trait.

AGGRESSOR does not control sedges or broadleaf weeds.

Do Not apply AGGRESSOR on ClearField wheat varieties as severe damage and loss will result.

Applied at specified rates and timings, AGGRESSOR controls the grasses listed in the "Weeds Controlled and Rate Selection" chart.

#### APPLICATION TIMING

Apply AGGRESSOR to young, actively growing grasses according to the rate chart that follows. If a field is to be irrigated, apply AGGRESSOR after the irrigation.

Applications made to grasses that: are larger than the sizes listed in the rate charts or to grasses under stress may result in unsatisfactory control.

#### SEQUENTIAL APPLICATIONS

Sequential applications of AGGRESSOR can be made to CoAXium Wheat with the AXIGEN TRAIT but do not exceed a total of 16 fl. oz./acre per crop year.

On CoAXium Winter Wheat with the AXIGEN TRAIT a fall application of 8 fl.oz/A can be made followed by a spring application of 8 fl. oz./A of AGGRESSOR.

#### ANNUAL GRASSES

In the event of a subsequent flush of grass, or regrowth of previously treated grass occurs, a second application of AGGRESSOR may be applied but no more than 16 oz/ acre of AGGRESSOR per crop year. Select the appropriate rate for the grassy weed from the "Weeds Controlled - Rate selection" chart.

#### SPRAY ADJUVANTS

Applications of AGGRESSOR must include a surfactant. Consult local Albaugh fact sheets, technical bulletins, and service policies prior to using other adjuvant systems. If another herbicide is tank mixed with AGGRESSOR to increase the weed spectrum, select adjuvants authorized for use with both products. Products must contain only EPA-exempt ingredients.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and 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.

#### Nonionic Surfactant (NIS)

- Apply at 0.25 % v/v (1 quart of product per 100 gallons spray solution).
- Surfactant products must contain at least 80% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

## Petroleum Crop Oil Concentrate (COC)

- Petroleum-based crop oil concentrates are the preferred adjuvant system in arid areas.
- Apply petroleum-based crop oil concentrate at rates up to 1% v/v (1 gallon per 100 gallons spray solution) or 2% under arid conditions.
- Oil adjuvants must contain at least 80% high quality, petroleum (mineral) or modified vegetable seed oil with at least 15% surfactant emulsifiers.
- For aerial applications apply 0.5% v/v (2 quarts product per 100 gallons spray solution).

## Methylated Seed Oil (MSO)

- Apply methylated seed oil at rates up to 1% v/v (1 gallon per 100 gallons spray solution) For aerial applications apply 0.5% v/v (2 quarts product per 100 gallons spray solution).

## Ammonium Nitrogen Fertilizer

- An ammonium nitrogen fertilizer may be added to the spray mixture, in addition to crop oil concentrate or nonionic surfactant, but is not required to optimize performance of this product.
- Use 2 quart/acre of a high-quality urea ammonium nitrate (UAN), such as 28%N, 20% N or 32%N, or 2 lb/acre of a spray-grade ammonium sulfate (AMS). Use 4 quart/acre UAN or 4 pound/acre AMS under arid conditions.
- Do not apply more than 50% of your total spray volume as fertilizer.
- Do not use liquid nitrogen fertilizer as the total carrier solution.

## Special Adjuvant Types

Combination adjuvant products may be used at doses that provide the required amount of NIS, COC, MSO and/or ammonium nitrogen fertilizer. Consult product literature for use rates and restrictions. In addition to the adjuvants specified above, other adjuvant types may be used if they provide the same functionality and have been evaluated and approved by Albaugh Product Management.

## APPLICATION WITH INSECTICIDES AND FUNGICIDES

AGGRESSOR may be tank mixed with postemergence insecticides, bactericides and fungicides registered for use in the specific crop.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and 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.

## APPLICATION WITH BROADLEAF HERBICIDES

AGGRESSOR does not have activity on broadleaf weeds.

For best results, apply AGGRESSOR alone or in sequence with a broadleaf herbicide(s). AGGRESSOR can be applied in a tank-mix with a wide selection of broadleaf herbicides.

Do not tank-mix AGGRESSOR with dimethylamine salt formulations of 2,4-D or MCPA as they are very antagonistic with AGGRESSOR and will severely reduce control or not provide any control of grassy weeds.

Ester formulations of 2,4-D or MCPA can be tank mixed with AGGRESSOR.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and 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.

Under arid or stressful environmental conditions, tank mixtures with other broadleaf herbicides may show a small reduction in control of some grass species.

Activity of the postemergence broadleaf herbicide in the tank mixture is not affected.

## Split Applications with Postemergence Broadleaf Herbicides

Applying AGGRESSOR immediately prior to or following an application of a postemergence broadleaf herbicide may reduce control of some grasses.

For best results, follow these recommendations when making split applications:

- Apply postemergence broadleaf herbicides at least 24 hours after applying AGGRESSOR
- Apply AGGRESSOR when grassy weeds begin to develop new leaves (generally 7 days after the postemergence broadleaf herbicide application) in fields treated with postemergence broadleaf herbicide.

## CROP ROTATION

Do not rotate to crops other than Canola, Cotton, Crambe, Dry Beans (including Chickpea), Flax, Lentils, Mint (Spearmint and Peppermint), Peas (Dry and Succulent Peas), Snap Beans, Soybeans, Sunflowers, Sugarbeets or wheat within 120 days after application.

Precaution: To reduce the risk of weed resistance development or gene-flow, growers should follow the recommended MOA rotational practices in the Resistance Management section before replanting CoAXium wheat.

## APPLICATION EQUIPMENT

See SPRAY DRIFT MANAGEMENT section for additional information and precautions.

### Ground Application

#### Broadcast Application

- Proper grassy weed spray coverage is critical to maximize the performance of AGGRESSOR.
- Use spray nozzles that will deliver medium/coarse or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S-572.1 (March, 2009).
- Use a minimum of 10 gallons of water per acre in non-arid areas.

- Use a minimum of 15 gallons of water per acre in arid areas.
- Do not exceed 40 gallons of water per acre.
- Increase spray volume and pressure as weed or crop density and size increase.

#### Aerial Application

Apply AGGRESSOR in water using a minimum spray volume of 5 gals./A. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur.

- Make applications at a maximum height of 10ft. above the crop with low-drift nozzles at a maximum pressure of 40 psi and wind speed not exceeding 10 mph to help assure accurate application within the target area.
- Use spray nozzles that will deliver coarse or larger spray droplets as defined in the American Society of Agricultural and Biological Engineers (ASABE) standard ANSI/ASAE S-572.1 (March, 2009).

#### RESISTANCE MANAGEMENT

Quizalofop-P-ethyl is in the class of herbicides known as aryloxyphenoxypropionates (FOPs) within the Group 1 herbicides that inhibit the enzyme acetyl-CoA carboxylase (ACCase) in weeds.

AGGRESSOR will not control grassy weeds with ACCase or Group 1 mode of action herbicide resistance.

Some weeds are known to develop resistance to herbicides that have been used repeatedly. While the development of herbicide resistance is well understood, it is not easily predicted. Therefore herbicides should be used in conjunction with the resistance management strategies in the area. If herbicide 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 techniques, improper use rates, improper application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain of weeds may have developed.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species

The following Best Management Practices (BMP) will reduce the potential for weed resistance:

- Ensure that good spray coverage is achieved with proper spray volumes and calibrated equipment.
- Plant into weed-free fields and keep fields as weed-free as possible.
- Avoid tank mixes that may cause antagonism and reduced weed control.
- Where possible, avoid the repeated use of herbicides with the same mode of action (i.e., same group number) in successive seasons either in cereal crops or rotational crops.
- Use mechanical cultivation, fertilizer regimens, seeding rates and row widths that enhance crop competitiveness.
- Prevent weed escapes from producing seed either in the crop or during fallow periods.
- Always apply this product at the specified rates and in accordance with the use directions. Do not use less than specified label rates alone or in tank mixtures. Do not use reduced rates of the tank mix partner.
- Scout fields carefully to determine the appropriate time for application.



- Scout fields carefully after application for performance in control of weeds.
- Prevent an influx of weeds into the field by managing field borders.
- If resistance is suspected, contact the local or State agricultural advisors or your local Albaugh representative for assistance at 1-800-247-8013.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

#### CoAXium Wheat Production System Rotational Practices

To prolong the utility of the AXigen trait, CoAXium Wheat Production System and AGGRESSOR, stewardship is critical. Albaugh recommends wheat crop rotational practices to minimize resistance and gene-flow development that can be induced if not properly managed refer in the label.

#### Limitations, Restrictions, and Exceptions

##### CoAXium WINTER WHEAT with the AXigen Trait

AGGRESSOR can be applied postemergence only with the CoAXium Wheat Production System and winter wheat varieties certified to contain the AXigen Trait. Contact your seed supplier, chemical dealer or Albaugh representative to obtain information about the CoAXium Wheat Production System and wheat varieties with the AXigen trait and AGGRESSOR.

DO NOT apply to winter wheat varieties that do not have the AXigen trait and tolerance to AGGRESSOR herbicide.

AGGRESSOR will only control grassy weeds that have emerged. Any grassy weeds

that emerge after application will not be controlled. Apply when the majority of grassy weeds have germinated and emerged. AGGRESSOR is effective in controlling weeds in conservation tillage and conventional tillage wheat production systems.

Weed control is optimized when AGGRESSOR is applied to actively growing wheat and targeted grassy weeds.

#### APPLICATION TIMING

AGGRESSOR can be applied to winter wheat in the fall/winter or spring for winter or spring annual grassy weed control.

Apply AGGRESSOR as an early postemergence treatment when weeds are actively growing and before grasses exceed 4 to 5 leaves. Apply AGGRESSOR to CoAXium Wheat and varieties with the AXigen Trait after 4 leaf but prior to jointing.

Delay application until the majority of the weeds are at the specified growth stage. When a mixture of grasses and broadleaf weeds are present, time the application to the grass weeds for best results. Depending upon the canopy of the broadleaf weeds, ensure good spray coverage for grass control.

Weed control can be reduced if there are excessive flushes of weeds following an application.

#### USE RATE

Apply 8 - 12 fl. ozs. AGGRESSOR per acre. See Weeds Controlled section for detailed use rate specifications.

Fall applications to winter wheat can be made with AGGRESSOR at rates from 8 - 12 oz/acre.

Spring applications made on winter wheat can be made with AGGRESSOR at rates from 8 - 12 oz/acre.

Fall and spring split applications can be made with AGGRESSOR at a single rate of 8 oz/acre in the fall followed by 8 oz/acre in the spring.

See WEEDS CONTROLLED AND RATE SELECTION Table for detailed use rate specifications.

## WINTER WHEAT PRECAUTIONS:

- Application of AGGRESSOR to weeds that have been grazed may result in reduced weed control. For optimum weed control, allow a period of 7 -14 days between the end of grazing and AGGRESSOR application for weed regrowth to occur. Under cold conditions, wait until new growth of weeds is evident before applying AGGRESSOR in fields that have been grazed.
- A thin stand of wheat may result in unacceptable weed control.
- Occasionally, reduction in plant height or temporary yellowing of crop plants may occur following AGGRESSOR applications depending on environmental conditions following the application. These effects can be more pronounced in spray overlap areas and/or if crops are growing under stressful environmental conditions (such as, but not limited to, drought, excessive moisture, improper fertility, improper varietal adaptation, poor planting conditions, etc.).
- To avoid possible crop injury, DO NOT apply AGGRESSOR to CoAXium Wheat Production System and varieties with the AXigen Trait when extreme cold temperatures (less than 40° F maximum daytime temperature) are expected within 1 week of application.
- Crop response associated with stress conditions and overlaps shall be the responsibility of the user.

## WINTER WHEAT CROP-SPECIFIC RESTRICTIONS:

- DO NOT apply more than 16 fl. ozs. AGGRESSOR/acre (0.11 lbs. of active ingredient) per crop cycle.
- Do not apply more than 12 fl. oz. AGGRESSOR/acre (0.0825 lbs. of active ingredient) in a single application.
- Do not make more than 2 applications per crop cycle.
- Do not make more than 2 applications per year.
- Do not make a second application within 14 days of first application.

- Do not harvest treated wheat for forage or hay within 60 days of the last application. Treated wheat can be harvested for grain or straw at maturity.

Method

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

[Broadcast/Foliar Air](#)

[Broadcast/Foliar Ground](#)

Restricted Entry Interval

12 hours

Tillages

[Conventional](#)

[Conservation](#)

Timings

[Postemergence \(Crop\)](#)

[Postemergence \(Weed\)](#)