



GROUPS 14 & 6

EMPHASIS™

Introducing EMPHASIS™:

A co-pack of two actives – carfentrazone and bromoxynil – that, when tank-mixed with glyphosate, offers three modes of action for fast burndown control of approximately 70 broadleaf and grassy weeds.



ACTIVE INGREDIENT

Carfentrazone-ethyl at 240 g/L as an EC = EMPHASIS™ A , and Bromoxynil (present as the octanoate ester) at 240 g/L as an EC = BROMOTRIL®

PACKAGING

Co-pack:

- · 2 x 0.6 L jugs of EMPHASIS™ A
- · 2 x 9.7 L jugs of BROMOTRIL®

APPLICATION RATE & ACRES TREATED

Canola

Rate: 15 ml/ac of EMPHASIS™ + 236 ml of BROMOTRIL®

Acres treated: 80 ac/case

Wheat, Oats & Barley

Rate: 30 ml/ac of EMPHASIS™ + 472 ml of BROMOTRIL®

Acres treated: 40 ac/case

WATER VOLUME

Ground: minimum 40 L/ac (10 US gal/ac)

Aerial: Do not apply by air.

RAINFASTNESS

30 minutes

REGISTERED CROPS AND STAGING

· Barley

· Oats

· Canola

· Wheat (spring, winter)

HOW IT WORKS

EMPHASIS[™] is a multi-mode, contact herbicide broadleaf weeds including Group 2- and 9- resistant biotypes such as kochia. Within a few hours following application, the foliage of susceptible weeds shows signs of desiccation, and in subsequent days, necrosis and death of the plant occur.

MIXING INSTRUCTIONS

- 1. Fill spray tank with ½ of the volume of clean water needed.
- 2. With agitator running add the required amount of EMPHASIS™ A tospray tank.
- 3. Next add the required amount of BROMOTRIL®.
- 4. Add more water, then add glyphosate.
- 5. Complete filling the tank to desired level.

CROP ROTATIONS

No restrictions

STORAGE

Do not freeze.

WEEDS CONTROLLED

When used as directed, the EMPHASIS™ co-pack will provide control of the listed weeds. Consult the glyphosate label for specific rates and weed staging and always follow the directions for use of the most stringent label.

Weeds controlled by EMPHASIS™ alone:		Rates:
 Black nightshade Eastern black nightshade¹ Lamb's quarters² Morning glory³ 	 Redroot pigweed Tall waterhemp¹ Velvetleaf Volunteer canola⁴ 	• EMPHASIS™ A: 15 ml/ac • BROMOTRIL® : 236 ml/ac
Additional weeds controlled when EMPHA		
EMPHASIS™ alone weeds, plus:		
CockleburCow cockleGreen foxtailGreen smartweed	 Lady's thumb Smooth pigweed Volunteer cereals (barley, oats, wheat) Wild mustard 	• EMPHASIS™ A: 15 ml/ac • BROMOTRIL®: 236 ml/ac • Glyphosate: 180 g a.i./ac
180 g a.i./ac weeds, plus:		
 Bluegrass (annual) Canada fleabane⁴ Canada thistle (rosette stage, summerfallow) Cleavers Crabgrass Dandelion (less than 15 cm) Downy brome Flixweed Giant foxtail Hemp-nettle 	 Kochia Narrow-leaved hawk's beard Narrow-leaved vetch Quackgrass⁵ Ragweed (common) Russian thistle Stinkweed Prickly lettuce Sow thistle (annual) Shepherd's purse Wild buckwheat 	• EMPHASIS™ A: 15 ml/ac • BROMOTRIL®: 236 ml/ac • Glyphosate: 360 g a.i./ac
Wheat, Oats, Barley: Pre-Plant (40 acr	es/case)	
Weeds controlled by EMPHASIS™ alone:		Rates:
 Buckwheat (common, tartary) Carpetweed Groundsel (common) Jimsonweed Lamb's quarters² Morning glory³ Mustard (tansy) 	 Nightshade (American, Black, Eastern black¹, hairy) Pigweed (red root, tumble) Purslane (common) Smartweed (pale) Velvetleaf Volunteer canola Waterhemp (common, tall¹) 	• EMPHASIS™ A: 30 ml/ac • BROMOTRIL®: 472 ml/ac

¹ up to 5 cm | 2 up to 7.5 cm | 3 up to 3 leaves | 4 does not include Group 9-resistant fleabane | 5 light to moderate infestations, 3-4 green leaves or more | 6 including glyphosate-tolerant varieties



^{*} Additional weeds controlled with glyphosate pertain to both canola and wheat/oat/barley applications.

EAST MATRIX — CEREALS

CEREALS

Wheat, oats, barley

Pre-seed: Applied 24 hours before seeding

Preemergence



EMPHASIS® Group 6 & 14

2 modes of action; when mixed with glyphosate, third mode of action is added to fight Group 2-, 9-resistant weeds

For best results, spray in the heat of the day with adequate water.

Fast knockdown, mulit-crop flexibility, and non-residual

Effective against volunteer canola, kochia and cleavers



INVOLVE® Group 2

Effective against volunteer canola, including Roundup Ready®, wild buckwheat, dandeloin and narrow-leaved hawk's beard

Can be tank-mixed with glyphosate or 2,4-D ESTER 700. Adjuvant required when mixing with glyphosate.

In-crop: 3-leaf stage to just before flag leaf (BBCH:13–39)



BROMOTRIL® Group 6

When tank-mixed with glyphosate, BROMOTRIL® provides outstanding burn-off control of tough weeds like kochia, buckwheat, cow cockle and Russian thistle.

BROMOTRIL® controls Group 2and Group 9-resistant biotypes. Tank-mix with glyphosate for pre-seed burndown. Adjuvant required with glyphosate.



2, 4-D ESTER 700Group 4

Pre-seed and pre-emergence timing flexibility

Mulit-crop flexibility

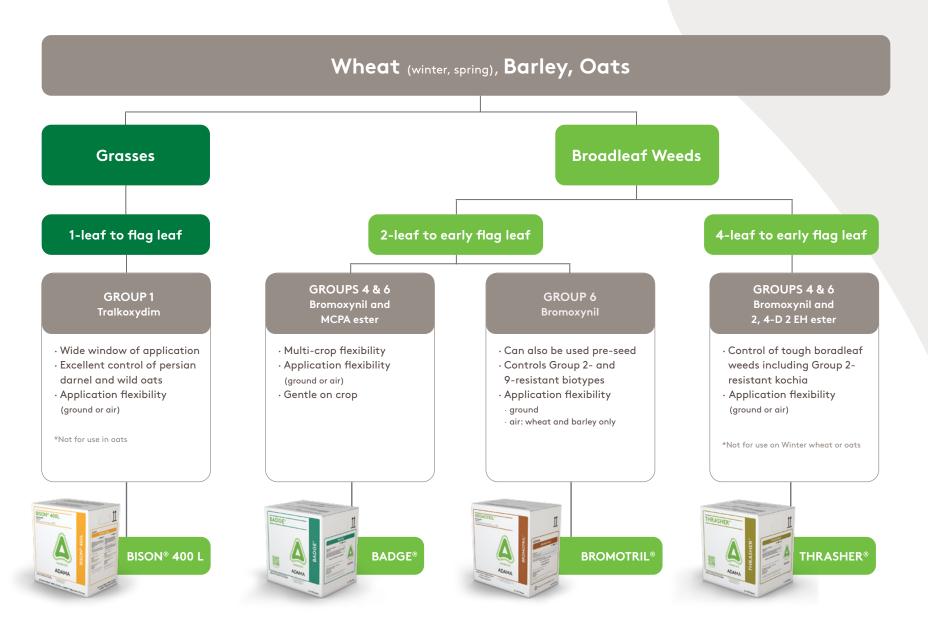
Flexible tank-mix options

No residue or crop rotation restrictions

Effective against a large list of hard-to-kill weeds, including volunteer canola, kochia, narrow-leaved hawk's beard and dandelion

NOTE: Not for use on oats

EAST MATRIX — CEREALS



(6) HERBICIDE



· Rapeseed

· Soybeans

SORATELTM

Advanced disease protection powered by Asorbital™ Formulation Technology. Offering a flexible application window, SORATEL™ fungicide is proven to protect a wide variety of crops from disease, including fusarium head blight in wheat and Gibberella ear rot in corn.



Prothioconazole 250 g/L = EC

PACKAGING

Case: 2 x 9.6 L jugs

APPLICATION RATE & ACRES TREATED

Rate: 160 - 320 ml/ac (standard rate: 240 ml/ac)

Acres treated: 30 – 60 ac/jug (standard rate: 40 ac/jug)

WATER VOLUME

Ground: Minimum 40 L/ac (recommended volume: 80 L/ac)

Aerial: Minimum 20 L/ac

RAINFASTNESS

Avoid application if heavy rainfall is in the forecast.

REGISTERED CROPS

Barley, Oats, Wheats (spring, winter) pluss...

- · Borage · Crambe
- Brassica carinata
 Corn
 Canola
 Flax (linseed)
- · Chickpeas · Oriental mustard

HOW IT WORKS

SORATEL™ is a triazolinthione, broad-spectrum systemic fungicide with Asorbital™ Formulation Technology. This new technology, unique to ADAMA, includes a built-in adjuvant which enhances leaf penetration and increases effectiveness.





KEY BENEFITS

- · Technologically advanced formulation developed by and unique to ADAMA
- · Only Canadian product available with Asorbital™ Formulation Technology
- · 5% higher efficacy vs. competitive products shown in Canadian trials
- · Improved leaf penetration into the plant, improved efficacy
- · Preventative, curative and eradicative control of multiple diseases in multiple crops
- · Wide window of application

MIXING INSTRUCTIONS

- 1. Add ½ of the required amount of water to the spray or mixing tank and start agitation.
- 2. Add the required quantity of SORATEL™ to the water and complete filling with water to the required total volume.
- 3. Maintain agitation throughout mixing and spraying.

NOTE: If tank-mixing with an insecticide, please reference the label of the partner for specific mixing order or follow W.A.M.L.E.G.S or W.A.L.E.S. for proper mixing protocol.

CROP ROTATIONS

Treated areas may be replanted with any crop specified on the label as soon as practical after the last application. For crops not listed on the label, do not plant back within 30 days of last application.

STORAGE

Do no freeze.

KEY DISEASES CONTROLLED:

Crop	Disease	Rate	Timing		
Cereals					
Barley	Fusarium head blight ¹	240 – 320 ml/ac	70 – 100% head emergence		
	Net blotch Scald Spot blotch	160 – 240 ml/ac	First sign of disease		
Oats	Crown rust	240 ml/ac	First sign of disease		
Wheat (spring, winter)	Fusarium head blight¹ Glume blotch	240 – 320 ml/ac	75% head emergence – 50% main stem flower		
	Leaf rust Speckled leaf blotch Tan spot	240 ml/ac	First sign of disease		

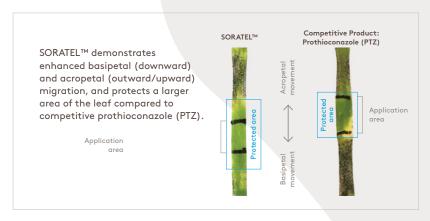
¹Suppression

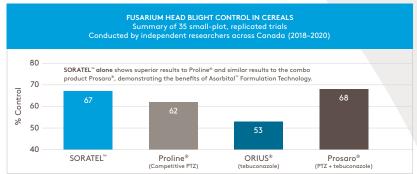
For a complete list of registered crops, diseases, and application rates, consult the label.

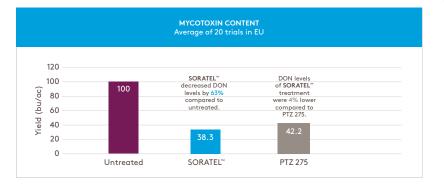
PRE-HARVEST INTERVALS

- · Corn (field, popcorn, sweet):14 days
- · Soybeans: 20 days
- · Barley, Oats, Wheat (spring, winter): 30 days
- · Borage, Brassica carinata, Canola, Crambe, Flax, Oriental mustard,

Rapeseed: 36 days

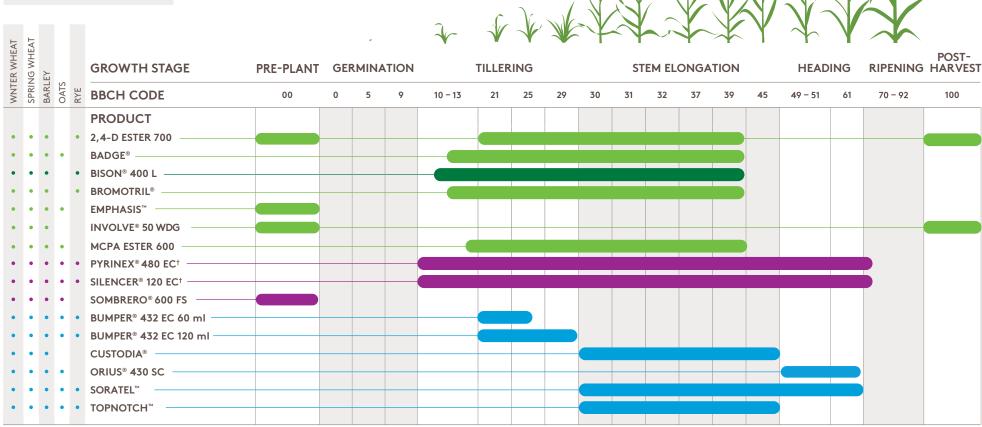






CEREALS GROWTH STAGES





Timing based on using the product alone. Please refer to tank-mix partner labels for crop timing.

[†]Dependent on PHI

EASTERN CANADA				
	GRASS HERBICIDES	BROADLEAF HERBICIDES	ROADLEAF HERBICIDES	
PRODUCT NAME Active Ingredient	BISON® 400 L Tralkoxydim	BADGE® Bromoxynil and MCPA ester	BROMOTRIL® Bromoxynil	INVOLVE® 50 WDG Tribenuron-methyl
Group	1	4 and 6	6	2
Replaces	Liquid Achieve™ SC Marengo	Buctril M Mextrol®	Pardner® Koril®	Express®
Case Package Size Acres Treated	Co-pack: 1 × 8 L jug BISON® 400 L + 1 × 8 L jug Addit® adjuvant 40 ac/co-pack	2 × 10 L jugs 40 ac/case	2 x 9.7 L jugs 34–40 ac/case	10 x 480 g 800 ac/case
Registered Crops	Field crops: barley, rye (spring, winter), triticale, wheat (spring, winter) Cereal crops underseeded to forage legumes: alfalfa, birdsfoot trefoil, clovers, sainfoin	Field crops: barley, fall rye, oats, wheat (spring, winter)	Preplant burn-off with glyphosate: barley, oats, wheat Foliar-applied: barley, fall rye, oats, wheat, winter wheat	Oats, spring barley, wheat (spring,winter)
Crop Staging	No crop staging restrictions	Barley, oats, spring wheat: 2-leaf to early flag leaf Fall rye: when growth commences in spring to early flag	Barley, oats, wheat (foliar applications): 2-leaf to early flag Winter wheat: - Fall application: 2–4 leaf - Spring application: first growth to early flag Fall Rye: in spring, from first growth to early flag	Pre-plant and Post-harvest
Key Pests Controlled	Wild oats, volunteer oats	American nightshade, ball mustard, bluebur, Canada thistle, cocklebur, buckwheat (common, tartary, wild), groundsel (common), ragweed (common), cow cockle, flixweed, green smartweed, kochia, lady's thumb, lamb's quarters, night-flowering Catchfly, pale smartweed, perennial sow thistle*, redroot pigweed, Russian thistle, scentless chamomile**, shepherd's purse, stinkweed, velvetleaf, volunteer canola (all types), volunteer sunflower, wild mustard, wild tomato, wormseed mustard Controls herbicide-resistant biotypes.	When tank-mixed with glyphosate, BROMOTRIL® provides outstanding burn-off control of tough weeds like buckwheat, cow cockle, Russian thistle as well a Group 2- and Group 9-resistant biotypes.	When tank-mixed with 2,4-D ester: annual sunflower, ball mustard, Canada thistle (top growth control), flixweed¹, hare's-ear mustard, Indian mustard, kochia (2-10 leaf), lamb's quarters, narrow-leaved hawk's beard¹, prickly lettuce, redroot pigweed, Russian pigweed. Russian thistle, shepherd's purse¹, stinkweed¹, sweet clover, thyme-leaved spurge When tank-mixed with glyphosate: Canada fleabane, common ragweed, cow cockle, dandelion (top growth), downy brome, flixweed, foxtail (giant, green), hemp-nettle, kochia, lady's thumb, lamb's quarters, narrow-leaved hawk's beard, redroot pigweed, stinkweed, thistle¹ (Canada, Russian), volunteers (barley, canola³, flax, wheat)
Pest Staging	Oats (wild, volunteer): 1- to 6-leaf	Cow cockle: up to 4–leaf stage Kochia , Russian thistle: spray before plants are 2 inches high Velvetleaf: spray before plants are 3 inches high	American nightshade, blueblur, cocklebur, common ragweed, cow cockle, green smartweed, kochia, lady's thumb, pale smartweed, pigweed, Russian thistle, stinkweed, velvetleaf, wild mustard: Seedling up to 4-leaf stage Common buckwheat, common groundsel, lamb's quarters, tartary buckwheat, wild buckwheat: Seedling up to 8-leaf stage	Dependent on target weed. Refer to product label for weed staging prior to seeding.
Tank-mix Options	2,4-D ESTER 700, Attain™ XC (not in Ontario), BADGE®, BROMOTRIL®, BUMPER® 432 EC, Decis®, Infinty®, MCPA ESTER 600, Pixxaro™, SILENCER® 120 EC, THRASHER® NOTE: Do not mix with amine formulation of 2,4-D or MCPA	BISON® 400 L, MCPA ESTER 600, Poast® Ultra, Refine® Extra	2,4-D ESTER 700, Accent®, atrazine, BISON® 400 L, BUMPER® 432 EC, dicamba, glyphosate, MCPA ESTER 600, Ultim®	2,4-D ESTER 700, AIM® EC, Authority® 480, dicamba L, glyphosate
Rate (when used alone)	200 ml/ac of both Tralkoxydim and Addit®.	500 ml/acre	490-570 ml/ac	6 g/ac
Rainfastness	1 hr	1 hr	30 minutes	Avoid if heavy rain is in the forecast
Mixing Instructions	BISON Tank-mix partner (if applicable) Addit® adjuvant NOTE: Agitation must be continued throughout the entire mixing and spraying procedure	1. BADGE® 2. Tank-mix partner (if applicable)	Tank-mix partner (if applicable) BROMOTRIL® (unless otherwise directed by the BROMOTRIL and tank-mix partner label).	1. INVOLVE® 50 WDG NOTE: Ensure that the herbicide is completely dispersed and in suspension before adding other components of the tank mix. 2. Tank-mix partner 3. Antifoam agent, if required
Re-Entry Period	12 hrs	12 hrs	12 hrs	12 hrs
Pre-Harvest Intervals	60 days	Cut for forage or hay: 7 days	30 days	-
Storage	Do not freeze.	Do not freeze.	Do not freeze.	May be store at any temperature.
Additional Info	Injury may occur if application is made within 48 hrs of frost. Avoid applying within 2–3 days of temperatures 4°C or below. For optimal crop safety, spray in warm weather with moist soil.	BADGE® is known to be gentle on the crop. Avoid spraying if temperatures are above 25°C.	Avoid spraying if temperature is above 25°C. For best results spray when weeds are in seedling stage.	Degree of control and duration of effect depend on weed sensitivity, weed size, spray coverage and growing conditions. Activity of the herbicide mixture may be delayed by cold, dry conditions after application

¹ Fall rosettes and spring seedlings | ² Suppression only | ³ including glyphosate-tolerant varieties * Top growth control ** Spring annual only

EASTERN CANADA	INSECTICIDES				FUNGICIDES	
PRODUCT NAME Active Ingredient	SILENCER® 120 EC Lambda-cyhalothrin 120g/L	SOMBRERO® 600 FS Imidacloprid 600 g/L	BUMPER® 432 EC Propiconazole 432 g/L	CUSTODIA® Tebuconazole 200 g/L Azoxystrobin 120 g/L	ORIUS® 430 SC Tebuconazole 430 g/L	TOPNOTCH TM Azoxystrobin 143 g/L Propiconazole 124 g/L
Group	3	4	3	3 and 11	3	3 and 11
Replaces	Matador®, Labamba	Stress Shield®	Propi Super 25 EC	Unique to ADAMA	Folicur®	Unique to ADAMA, similar to Quilt®
Case Package Size Acres Treated*	4 × 3.785 L jugs/case 220 – 74 ac/jug	8 × 1.54 L jugs/case 30–90 ac/jug	2 × 4.8 L jugs/case 40 ac/jug	2 × 9.5 L jugs/case 38–50 ac/jug	2 × 9.44 L jugs/case Barley and Wheat: 80–100 ac/jug Oats: 100 ac/jug	2 × 8.6 L jugs/case 15–40 ac/jug
Registered Crops	Alfalfa, cereals (barley, oats, wheat)	Barley, oats, wheat (spring, winter)	Barley, oats, wheat (spring, winter)	Barley, wheat (spring, winter)	Barley, oats, wheat (spring, winter)	Barley, oats, rye, triticale, wheat
Crop Staging	The need and timing of an application should be based on the presence of pests at vulnerable developmental stages and significant populations, as determined by local monitoring. Consult the label for specific crop and insect timing.	Seed treatment	At first sign of disease, usually at the beginning of stem elongation up to before the head is ½ emerged.	Apply at first sign/very early stage of disease, up the beginning of heading.	Fusarium head blight: when at least 75% of the wheat heads on the main stem are fully emerged to when 50% of the heads on the main stem are in flower. All other diseases: at early stages of the disease development especially if weather conditions are conducive to disease development.	
Key Pests or Diseases Controlled	Armyworm, cutworms, darksided cutworm, fall armyworm, grasshoppers	Wireworms	Black knot¹, blackleg, brown spot, cherry leaf spot, cottonball, mummy berry, net and spot blotches, powdery mildew, rusts, scalds, Septoria spots and blotches, tan spots, yellow rust	Leaf rust, net blotch, Septoria leaf blotch, spot blotch, stem rust, stripe rust, tan spot	Fusarium head blight ¹ , net blotch, powdery mildew, rusts (leaf, stem, stripe), scald, Septoria glume blotch, Septoria leaf blotch, spot blotch, tan spot	Anthracnose, Ascochyta blight, barley leaf rust, Mycosphaerella blight, net and spot blotches, powdery mildew, scald, Septoria spot, stripe rust, tan spot, wheat leaf rust, white mould ¹
Tank-mix Options	Herbicides: BISON® 400 L Fungicides: BUMPER® 432 EC, Headline® EC, Quilt®, TOPNOTCH™	Allegiance®, Apex, EverGol® Energy, Insure®Cereal, Raxil®T, Raxil®MD, Raxil®Pro, Vibrance®Quattro, Vibrance®Maxx RFC	Herbicides: 2,4-D ester, BADGE®, BROMOTRIL®, MCPA ester Insecticides: SILENCER® 120 EC, Ripcord™	Manipulator™	ORIUS® 430 SC is recommended to be used with a registered non-ionic surfactant, such as Agral® 90 or Ag-Surf®, at 0.125% v/v.	Coragen®, Quadris®, SILENCER® 120 EC
Rate* (when used alone)	17 – 51 ml/ac	17 – 50 ml/100 kg seed	120 ml/acre	190–250 ml/ac	Barley and Wheat: 89 –118 ml/acre Oats: 89 ml/ac	210 ml/ac
Rainfastness	1 hour	N/A	1 hour	Avoid application when heavy rain is forecast.	Avoid application when heavy rain is in the forecast.	Do not apply when rain is imminent. Leaf coverage and penetration is critical for use.
Mixing Instructions	Confirm compatibility in advance by premixing small proportional quantities of water with SILENCER®120 EC and the tank-mix partner.	Dilute in sufficient liquid to achieve uniform coverage on the seed. 1. Fungicide 2. Coating agents 3. SOMBRERO® 600 FS NOTE: A colourant MUST be added in accordance with the PCP Act and the Seeds Act Regulations.	1. BUMPER® 432 EC 2. Tank-mix partner	1. CUSTODIA® 2. Tank-mix partner NOTE: Use a 50-mesh (or coarser) filter screen.	 ORIUS® 430 SC Tank-mix partner Non-ionic surfactant at 0.125% v/v 	1. TOPNOTCH™ 2. Tank-mix partner
Re-Entry Period	24 hours No restrictions the following year	N/A	12 hours	12 hours	12 hours	12 hours
Grazing Restrictions	N/A	N/A	Do not graze livestock within 3 days of spraying.	Do not graze livestock within 6 days of spraying.	Do not graze livestock within 6 days of spraying.	No restrictions
Pre-Harvest Interval	Timothy: 14 days Barley, oats, wheat: 28 days Wheat for forage: 14 days	N/A	45 days	Straw cut after harvest may be fed or used for bedding.	Applications may not be made within 36 days of harvest.	45 days
Storage	Do not freeze.	Do not freeze.Agitate vigorously before use.	May be stored at any temperature.	Do not freeze.	Do not freeze.	Do not freeze.
Additional Info	Apply below temperatures of 25°C. Apply in the evening or early morning when temperatures are cool to get the best control.	For resistance management, rotate SOMBRERO® 600 FS with different groups that control the same pests in a field.	BUMPER® 432 EC should be applied as a preventative disease control measure.	CUSTODIA® should be applied at flag leaf for optimal leaf disease control.	ORIUS®430 SC should only be applied when the risk of Fusarium head blight infection is high.	Good spray coverage and canopy penetration are important to achieve the best results.

 $^{^{1}}$ Suppression only | * Application rates vary by crop, pest, and disease. Refer to the label for details.



WHY IS ADAMA DIFFERENT?

We are all in this business because we love agriculture...the business of 'growing'... the passion of feeding our communities, our country, and the world. It's that simple.

But getting to that end result, especially in this last decade, has unfortunately become anything but simple.

At ADAMA, we think it's time for a change. And our driving philosophy— **Listen > Learn > Deliver**—was developed with that change in mind.

We **LISTEN** to the retailers and distributors, the growers, our employees, and the agronomic scientists who are continually working to ensure our industry is the most profitable, agronomically sound and sustainable that it can be.

From those same people, we **LEARN** what they need from crop protection companies, and from ADAMA specifically, to help them achieve and exceed those goals.

What we have learned is:

- The myriad of products available is overwhelming.
- Getting supply and delivery of products on time and correctly can be a challenge.
- Complicated grower programs take precious time away from dealing with what matters most.

Basically, what could be simple, is not anymore.

So, with that in mind, ADAMA has a desire to be different! We hire people who truly embody our philosophy, not only to listen, and learn but to develop and **DELIVER**:

- 270+ available actives that allow growers to deal with fewer chemical companies, reducing the complexity of the retail order
- The ability to fast track tank-mix solutions for key pests as we don't need to work with other companies
- The ability for growers to target a myriad of key pests with ADAMA products alone
- No grower programs...just great products and a great price with great service.

In short, products, solutions and services that help us all to focus on what we collectively are and have always been passionate about.

Listen - Learn - Deliver

It can be that simple.



Listen - Learn - Deliver

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