



WE ARE

All In  
on cereals



ADAMA

# 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 includes:

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

## APPLICATION RATE & ACRES TREATED

### Wheat, Oats & Barley

#### Rates:

- 30 ml/ac of EMPHASIS™ A
- 472 ml/ac of BROMOTRIL®

Acres treated: 40 ac/case

## WATER VOLUME

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

Aerial: Do not apply by air.

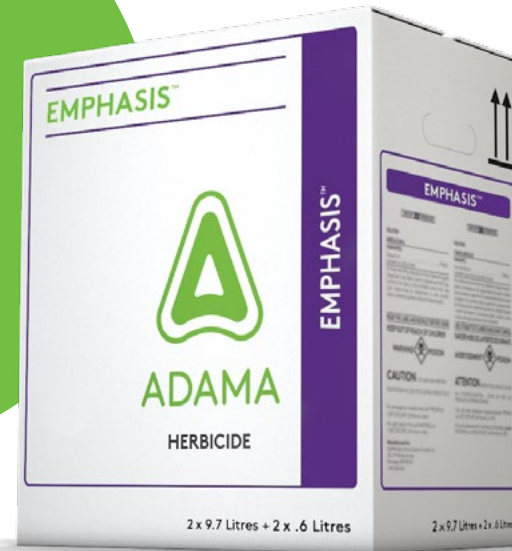
## RAINFASTNESS

30 minutes

## REGISTERED CROPS AND STAGING

- Barley
- Oats
- Wheat (spring, winter)

NOTE: EMPHASIS™ is also registered on canola. Please refer to label for rates.



## HOW IT WORKS

EMPHASIS™ is a multi-mode, contact herbicide for the control of broadleaf weeds including Group 2- and Group 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 to spray 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.

Wheat, Oats, Barley: Pre-Plant (40 acres/case)		
Weeds controlled by EMPHASIS™ alone:		Rates:
<ul style="list-style-type: none"> <li>• Buckwheat (common, tartary)</li> <li>• Carpetweed</li> <li>• Groundsel (common)</li> <li>• Jimsonweed</li> <li>• Lamb's quarters<sup>2</sup></li> <li>• Morning glory<sup>3</sup></li> <li>• Mustard (tansy)</li> <li>• Nightshade (American, Black, Eastern black<sup>1</sup>, hairy)</li> </ul>	<ul style="list-style-type: none"> <li>• Pigweed (red root, tumble)</li> <li>• Purslane (common)</li> <li>• Redroot pigweed</li> <li>• Smartweed (pale)</li> <li>• Tall waterhemp</li> <li>• Velvetleaf</li> <li>• Volunteer canola<sup>6</sup></li> <li>• Waterhemp (common, tall<sup>1</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>• EMPHASIS™ A: 30 ml/ac</li> <li>• BROMOTRIL®: 472 ml/ac</li> </ul>
Additional weeds controlled when EMPHASIS™ is tank-mixed with glyphosate (at stated rate)*		
EMPHASIS™ alone weeds, plus:		
<ul style="list-style-type: none"> <li>• Cocklebur</li> <li>• Cow cockle</li> <li>• Green foxtail</li> <li>• Green smartweed</li> </ul>	<ul style="list-style-type: none"> <li>• Lady's thumb</li> <li>• Smooth pigweed</li> <li>• Volunteer cereals (barley, oats, wheat)</li> <li>• Wild mustard</li> </ul>	<ul style="list-style-type: none"> <li>• Glyphosate: 180 g a.i./ac</li> </ul>
180 g a.i./ac weeds, plus:		
<ul style="list-style-type: none"> <li>• Bluegrass (annual)</li> <li>• Canada fleabane<sup>4</sup></li> <li>• Canada thistle (rosette stage, summerfallow)</li> <li>• Cleavers</li> <li>• Crabgrass</li> <li>• Dandelion (less than 15 cm)</li> <li>• Downy brome</li> <li>• Flixweed</li> <li>• Giant foxtail</li> <li>• Hemp-nettle</li> <li>• Kochia</li> </ul>	<ul style="list-style-type: none"> <li>• Narrow-leaved hawk's beard</li> <li>• Narrow-leaved vetch</li> <li>• Quackgrass<sup>5</sup></li> <li>• Ragweed (common)</li> <li>• Russian thistle</li> <li>• Stinkweed</li> <li>• Prickly lettuce</li> <li>• Sow thistle (annual)</li> <li>• Shepherd's purse</li> <li>• Wild buckwheat</li> </ul>	<ul style="list-style-type: none"> <li>• Glyphosate: 360 g a.i./ac</li> </ul>
<p>The EMPHASIS™ + glyphosate combination controls approximately 70 weeds (not all are listed here). See the glyphosate label for a complete list of weeds controlled at each rate.</p>		

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

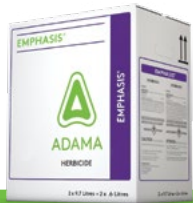
\* Additional weeds controlled with glyphosate pertain to both canola and wheat/oat/barley applications.

# EAST MATRIX — CEREALS

## CEREALS Wheat, Oats, Barley

Pre-seed: Apply 24 hours before seeding

Pre-emergent



### EMPHASIS™ Groups 6 & 14

2 modes of action

When mixed with glyphosate, third mode of action is added to fight Group 2- and Group 9-resistant weeds.

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

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

Effective against volunteer canola, kochia and cleavers



### INVOLVE® 50 WDG Group 2

Effective against wild buckwheat, dandelion, narrow-leaved hawk's beard and volunteer canola (including Roundup Ready® varieties)

Can be tank-mixed with glyphosate or 2,4-D ESTER 700.

NOTE: Adjuvant required when mixing with glyphosate.

**Application timing** (in-crop):  
3-leaf stage to just before flag leaf (BBCH:13-39)



### BROMOTRIL® Group 6

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

Controls Group 2- and Group 9-resistant biotypes.

Tank-mix with glyphosate for pre-seed burndown.

NOTE: Adjuvant required when mixing with glyphosate.



### 2,4-D ESTER 700 Group 4

Pre-seed and pre-emergent timing flexibility

Multi-crop flexibility

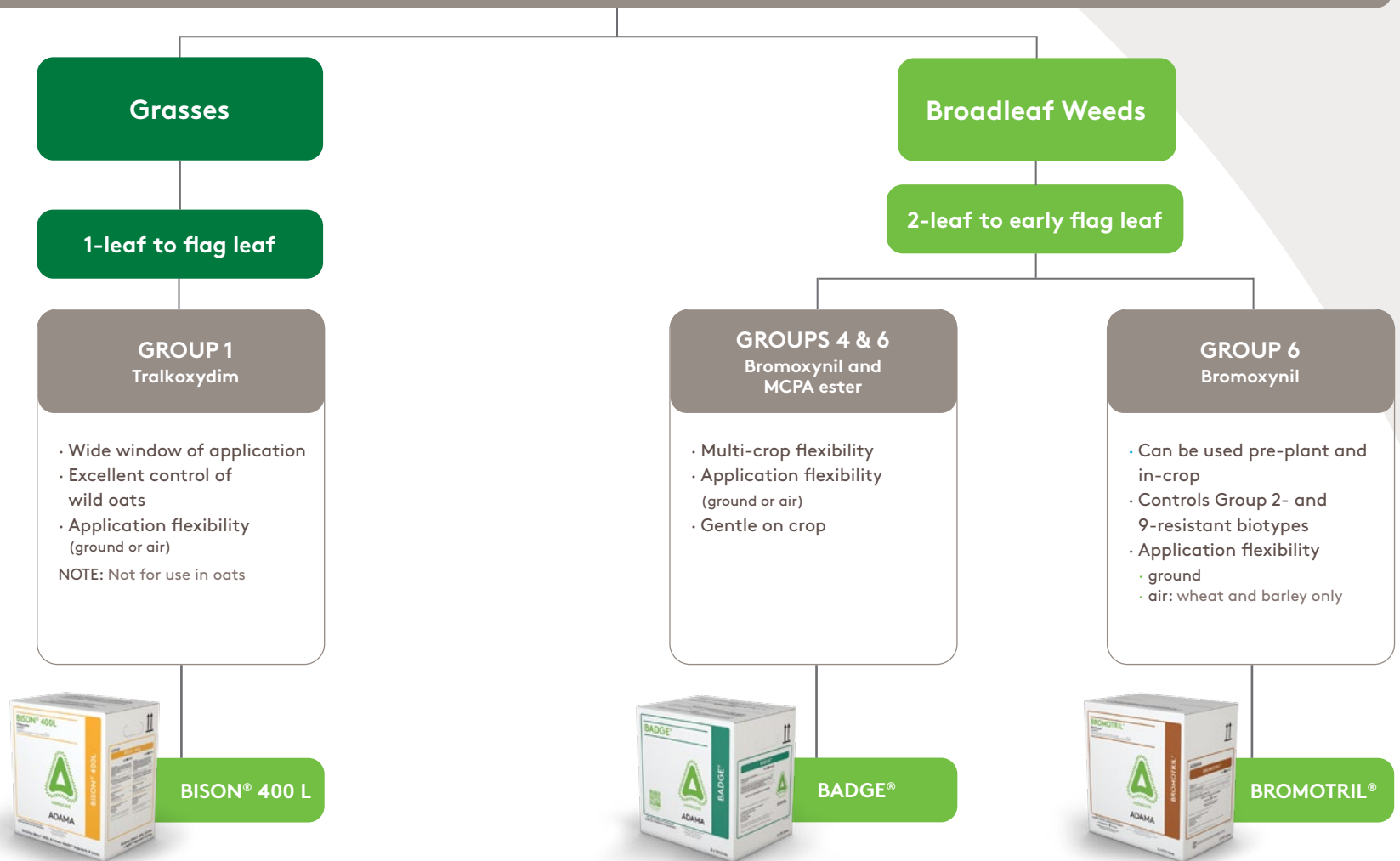
Flexible tank-mix options

No residue or crop rotation restrictions

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

NOTE: Not for use on oats

## Barley, Oats, Wheat (spring, winter)



# SORATEL™

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.



POWERED BY  
**Asorbital®**  
FORMULATION TECHNOLOGY

## ACTIVE INGREDIENT

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, Wheat (spring, winter)

## 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
- First Canadian product with Asorbital® Formulation Technology
- 5% higher efficacy vs. competitive products shown in Canadian trials
- Improved leaf penetration into the plant, and improved efficacy
- Preventative, curative and eradicated 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.

## 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

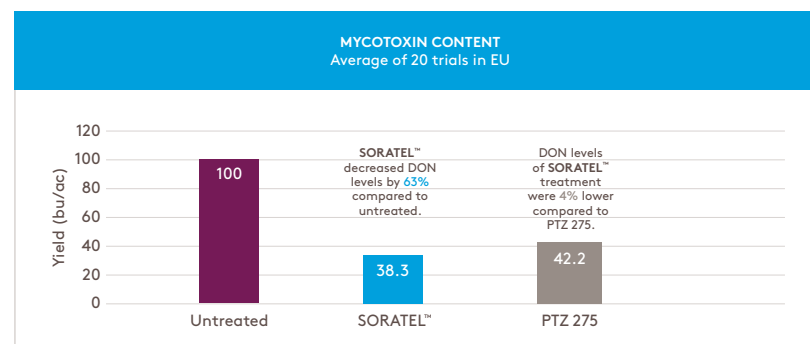
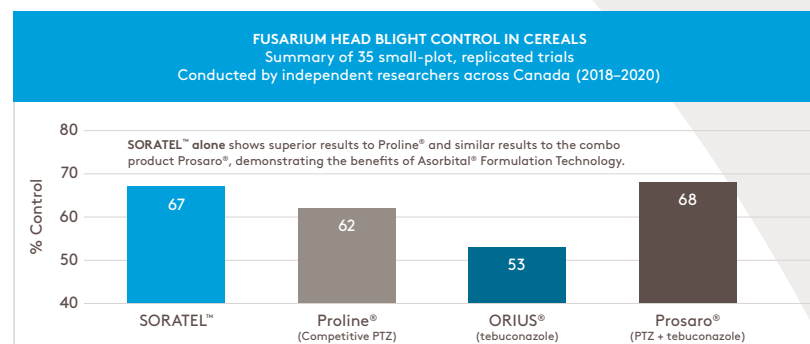
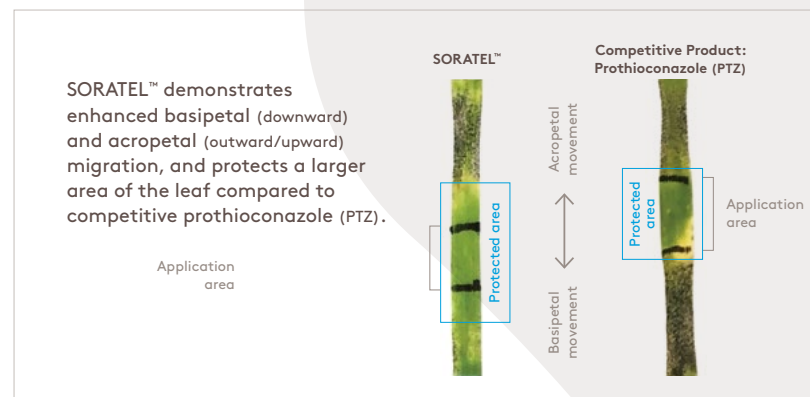
Crop	Disease	Rate	Timing
<b>Cereals</b>			
Barley	Fusarium head blight <sup>1</sup>	240 – 320 ml/ac	70 – 100% head emergence
	Net blotch Scald Spot blotch	160 – 240 ml/ac	First sign of disease
Oats	Crown rust	240 ml/ac	First sign of disease
Wheat (spring, winter)	Fusarium head blight <sup>1</sup> Glume 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

<sup>1</sup>Suppression

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

## PRE-HARVEST INTERVALS

- Barley, Oats, Wheat (spring, winter): 30 days





NEW

 FUNGICIDE

GROUP 3

# SORADUO™

Advanced disease protection powered by Asorbital® Formulation Technology. SORADUO™ provides proven fusarium protection in wheat and barley.



POWERED BY

**Asorbital®**

FORMULATION TECHNOLOGY

## ACTIVE INGREDIENT

Prothioconazole 250 g/L = EC and Tebuconazole 430 g/L = SC

## PACKAGING

### Co-pack includes:

- 1 x 9.71 L jug of SORADUO™ A
- 1 x 5.65 L jug of SORADUO™ B

## APPLICATION RATE & ACRES TREATED

### Rates:

- SORADUO™ A: 162 ml/ac
- SORADUO™ B: 94 ml/ac

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

## WATER VOLUME

**Ground:** 40 – 80 L/ac (10 – 20 US gal/ac)

**Aerial:** 10 L/ac (3 US gal/ac)

## RAINFASTNESS

Avoid applying when rain is forecast.

## REGISTERED CROPS

Barley, Wheat (spring, winter)

## HOW IT WORKS

SORADUO™ is a combination of a triazole fungicide that features Asorbital® Formulation Technology and broad-spectrum system activity plus long-lasting foliar protection.

## KEY BENEFITS

- Proven fusarium protection in wheat and barley
- Absorbital® Formulation Technology helps to deliver uniform coverage for consistent protection
- Simple choice without the complication of grower programming
- Application flexibility
- Performance over a wide range of conditions



## MIXING INSTRUCTIONS

1. Fill the tank ½ full with clean water.
2. Add required amount of SORADUO™ B.
3. Add required amount of SORADUO™ A.
4. Add optional non-ionic surfactant (NIS) at 0.125% v/v.
5. Fill the tank and agitate again before use.

## CROP ROTATIONS

No restrictions

## STORAGE

Do not freeze.

## PRE-HARVEST INTERVALS

36 days

## QUICK TIPS

Fusarium head blight outbreaks in wheat and barley occur when the weather is warm and wet at head emergence and flowering. Timing of application is critical when providing protection against fusarium head blight.

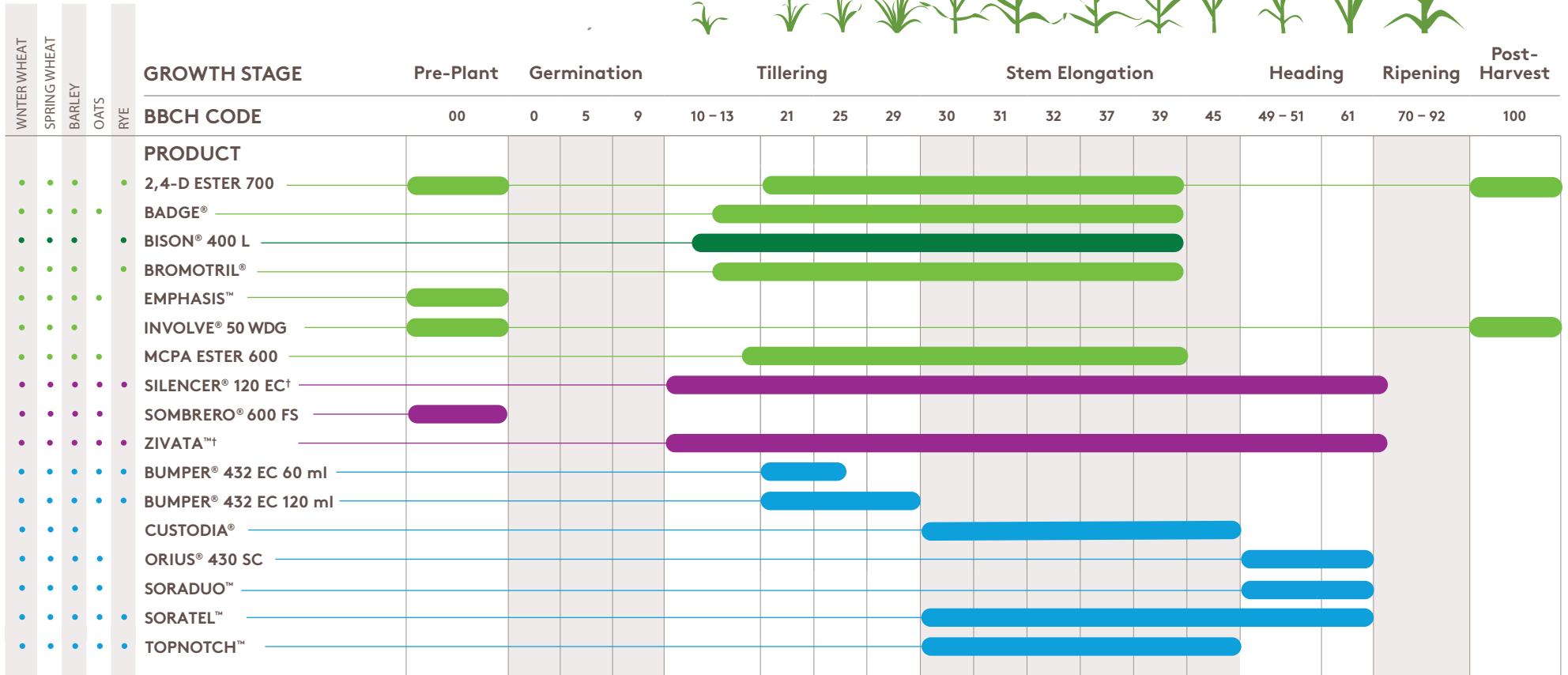
## KEY DISEASES CONTROLLED

Crop	Disease	Timing
<b>Cereals</b>		
Barley	For suppression of fusarium head blight (fusarium spp.)	70 – 100% head emergence to 3 days after full head emergence
Wheat (spring, winter)		75% head emergence – 50% main stem flower

Applications per year: Maximum of one (1)

# CEREALS GROWTH STAGES

- HERBICIDE Broadleaf
- HERBICIDE Grass
- INSECTICIDE
- FUNGICIDE



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

† Dependent on Pre-harvest Interval (PHI)

## GRASS HERBICIDES

## BROADLEAF HERBICIDES

## PRODUCT NAME

Active Ingredient(s)

Group(s)

Replaces

Case Package Size

Acres Treated

Registered Crops

Crop Staging

Key Weeds  
Controlled

Tank-mix Options

Rate  
(when used alone)

Rainfastness

Mixing Instructions

Re-Entry Period

Grazing Restrictions

Pre-Harvest Intervals

Storage

Additional Info

## BISON® 400 L

Tralkoxydim

1

Liquid Achieve™ SC, Marengo®

Co-pack includes:

- 1 × 8 L jug of BISON® 400 L
- 1 × 8 L jug of Addit® adjuvant

40 ac/co-pack

Field crops: barley, rye (spring, winter), triticale, wheat (spring, winter)

Cereal crops underseeded to forage legumes: alfalfa, birdsfoot trefoil, clovers, sainfoin

Generally there are no restrictions.

Always read the label for tank-mixing instructions and additional restrictions.

Barnyard grass, foxtail (green, yellow), Persian darnel, proso millet, volunteer canary seed, volunteer oats, wild oats

2,4-D ESTER 700, Attain™ XC (not in Ontario), BADGE®, BROMOTRIL®, BUMPER® 432 EC, Decis®, Infinty®, MCPA ESTER 600, Pixxaro™, SILENCER® 120 EC, ZIVATA™, THRASHER®  
NOTE: Do not mix with amine formulation of 2,4-D or MCPABISON® 400 L: 200 ml/ac  
Addit® @ 0.5% v/v

1 hour

1. BISON® 400 L
2. Tank-mix partner (if applicable)
3. Addit® adjuvant

NOTE: Agitation must be continued throughout the entire mixing and spraying procedure

12 hours

16 days

60 days

Do not freeze.

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.

## 2,4-D ESTER 700

2,4-D Ester

4

Other 2,4-D ester products

Rate: 200 – 600 ml/ac

17 – 50 ac/jug

1665 – 5000 ac/tote

Field crops: barley, field corn, rye (spring, fall), wheat (spring, winter)

Barley, rye, wheat (spring, winter): Pre-plant or pre-emergent, 4-leaf to flag leaf

Winter wheat, fall rye: Pre-plant or pre-emergent, In spring, from full tillering to shot blade stage. Do not apply during and after flag leaf stage. Do not apply to seedling cereals in fall.

Field corn: Before the 6-leaf stage. Application at later stages will damage corn. If applying at later stage, use a shielded spray, keep spray off corn foliage. Do not apply within 2 weeks of silking and tasseling.

Annual sow thistle, bluebur, burdock, cocklebur, daisy fleabane, false flax, false ragweed, flixweed, giant ragweed, goat's beard, kochia, lamb's quarters, mustards (except dog and tansy), narrow-leaved hawk's beard, plantain, prickly lettuce, ragweeds, redroot pigweed, Russian pigweed, Russian thistle, shepherd's purse, stinging nettle, stinkweed, sweet clover (seedling), thyme-leaved spurge, volunteer canola<sup>1</sup>, wild radish, wild (prairie) sunflower<sup>1</sup>All types

BISON® 400 L, BROMOTRIL®, BUMPER® 432 EC, glyphosate, INVOLVE® 50 WDG, PYRINEX® 480 EC

Barley, rye, wheat (spring, winter)  
· Pre-plant and pre-emergent: 200-500 ml/ac  
· In-crop: up to 500 ml/ac  
Refer to label for rates to control specific weeds.

2 hours

Refer to label.

24 hours

30 days

90 days

May be stored at any temperature. Shake well before using.

Avoid spray drift to any off-target vegetation. Coarse sprays are less likely to drift. Do not spray during periods of high winds.

## BADGE®

Bromoxynil &amp; MCPA ESTER 600

4 &amp; 6

Buctril® M, Mextrol®

2 × 10 L jugs

40 ac/case

Field crops: barley, fall rye, oats, wheat (spring, winter)

Barley, oats, spring wheat: 2-leaf to early flag leaf  
Fall rye: when growth commences in spring to early flag leafAmerican nightshade, ball mustard, bluebur, Canada thistle, cocklebur, buckwheat (common, tartary, wild), common groundsel, cow cockle, flixweed, kochia, lady's thumb, lamb's quarters, night-flowering Catchfly, perennial sow thistle\*, ragweed (common), redroot pigweed, Russian thistle, scentless chamomile\*\*, shepherd's purse, smartweed (green, pale), stinkweed, velvetleaf, volunteer canola (all types), volunteer sunflower, wild mustard, wild tomato, wormseed mustard  
Controls herbicide-resistant biotypes.

BISON® 400 L, MCPA ESTER 600, Poast® Ultra, Refine® Extra

500 ml/acre

1 hour

1. BADGE®
2. Tank-mix partner (if applicable)

24 hours

30 days

Cut for forage or hay: 7 days

Do not freeze.

BADGE® is known to be gentle on the crop. Avoid spraying if temperatures are above 25°C.

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

EASTERN CANADA

**BROADLEAF HERBICIDES**

**PRE-PLANT/POST-HARVEST**

PRODUCT NAME Active Ingredient	<b>BROMOTRIL®</b> Bromoxynil	<b>MCPA ESTER 600®</b> MCPA 2 EH Ester 600	<b>INVOLVE® 50 WDG</b> Tribenuron-methyl
Group	6	4	2
Replaces	Brotex®, Koril®, Pardner®	Other MCPA ester products	Express® SG
Case Package Size Acres Treated*	<b>2 x 9.7 L jugs</b> 34–40 ac/case	<b>2 x 10 L jugs</b> 24–35 ac/case	<b>10 x 480 g</b> 800 ac/case
Registered Crops	Preplant burn-off with glyphosate: barley, oats, wheat Foliar-applied: barley, fall rye, oats, wheat	Barley, oats (not underseeded with legumes), rye, wheat	Barley (spring), oats, wheat (spring, winter)
Crop Staging	Barley, oats, wheat (foliar applications): 2-leaf to early flag leaf Winter wheat: · Fall application: 2- to 4-leaf · Spring application: first growth to early flag leaf Fall Rye: in spring, from first growth to early flag leaf	Barley, rye, wheat (spring): From the 3-leaf expanded to the early flag-leaf stage; From milk stage to maturity Oats: From the 1-leaf expanded to the early flag-leaf stage Fall Rye, wheat (winter) : In spring, from full tillering to the shot blade stage. Do not apply during and after the flag-leaf stage. Do not apply to seedling winter cereals in the fall. GROUND APPLICATION ONLY.	Pre-plant and post-harvest
Key Weeds Controlled	American nightshade, buckwheat (common, tartary, wild) bluebur, cocklebur, common groundsel, cow cockle <sup>1</sup> , kochia <sup>2</sup> , lady's thumb, lamb's quarters, pigweed <sup>1</sup> ragweed (common), Russian thistle <sup>2</sup> , smartweed (green, pale), stinkweed <sup>1</sup> , velvetleaf <sup>3</sup> , wild mustard <sup>1</sup>	Susceptible weeds: Annual sunflower, burdock <sup>3</sup> , cocklebur, flixweed <sup>2</sup> , lamb's quarters, mustard (except Dog and Tansy), plantain, prickly lettuce, ragweed, Russian pigweed <sup>2</sup> , shepherd's purse <sup>2</sup> , stinkweed, vetch, wild radish Harder-to-control weeds: Biennial wormwood, bindweed <sup>2</sup> (field, hedge), Canada thistle <sup>2</sup> , corn spurry <sup>2</sup> , curled dock, dandelion, dog mustard, horsetail <sup>2</sup> , peppergrass, goat's beard, hairy galinsoga, hemp-nettle <sup>3</sup> , kochia, lady's thumb <sup>2</sup> , leafy spurge <sup>2</sup> , mustard (dog and tansy), oak-leaved goosefoot, purslane, redroot pigweed, Russian knapweed <sup>2</sup> , Russian thistle, smartweed <sup>2</sup> , sow thistle (annual, perennial <sup>2</sup> ), sweet clover <sup>4</sup> , tartary buckwheat	Annual sunflower, Canada thistle (top growth control), cow cockle, flixweed (fall rosettes and spring seedlings), kochia (2–10 leaf), lamb's quarters, narrow-leaved hawk's beard, (fall rosettes and spring seedlings), prickly lettuce, redroot pigweed, Russian thistle, shepherd's purse (fall rosettes and spring seedlings), sweet clover, wild mustard, wild buckwheat <sup>1</sup> <sup>1</sup> Suppression only
Tank-mix Options	2,4-D ESTER 700, Accent®, atrazine, BISON® 400 L, BUMPER® 432 EC, dicamba, glyphosate, MCPA ESTER 600, Ultim®	Herbicides: BADGE®, BISON® 400 L, BROMOTRIL® Insecticides: PYRINEX® 480 EC Fungicides: BUMPER® 432 EC	2,4-D ESTER 700, AIM® EC, Authority® 480, dicamba L, glyphosate
Rate* (when used alone)	490–570 ml/acre	Wheat (spring), barley, rye: up to 435 ml/ac Oats (not underseeded with legumes): up to 365 ml/ac Refer to label for rates to control specific weeds.	6 g/ac
Rainfastness	30 minutes	2 hours	Avoid if heavy rain is in the forecast
Mixing Instructions	1. Tank-mix partner (if applicable) 2. BROMOTRIL® (unless otherwise directed by the BROMOTRIL and tank-mix partner label).	1. MCPA ESTER 600 2. Tank-mix partner (if applicable)	1. INVOLVE® 50 WDG NOTE: Ensure that 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 hours	12 hours	12 hours
Grazing Restrictions	30 days	7 days	N/A
Pre-Harvest Interval	30 days	7 days	30 days
Storage	Do not freeze.	May be stored at any temperature	May be stored at any temperature.
Additional Info	Avoid spraying if temperature is above 25°C. For best results spray when weeds are in seedling stage.	If product is exposed to temperatures below -20°C, it should be warmed to at least 5°C and mixed thoroughly before using..	Herbicide activity may be delayed by cold, dry conditions after application.

These are just a few of our many herbicide offerings. To see our full product portfolio for cereals, please visit our website at [ADAMA.com](http://ADAMA.com)

<sup>1</sup> Suppression only | <sup>2</sup> use highest rate listed | <sup>3</sup> before 4-leaf stage | <sup>4</sup> seedlings |  
\* Application rates vary by crop, pest, and disease. Refer to the label for details.

 Always read and follow label directions.

## INSECTICIDES

PRODUCT NAME Active Ingredient	SILENCER® 120 EC Lambda-cyhalothrin	SOMBRERO® 600 FS Imidacloprid	ZIVATA™ <small>NEW</small> <small>Low VOC</small> Lambda-cyhalothrin
Group	3	4	3
Replaces	Labamba, Matador® 120 EC	Stress Shield®	Labamba, Matador® 120 EC
Case Package Size Area Treated*	4 x 3.785 L jugs/case 110–150 ac/jug	8 x 1.54 L jugs/case 30–90 ac/jug	2 x 4.08 L jugs/case 120–163 ac/jug (120 ac/jug at standard rate)
Registered Crops	Barley, oats, wheat (spring, winter)	Barley, oats, wheat (spring, winter)	Barley, oats, wheat (spring, winter)
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	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.
Key Pests Controlled	Armyworms, cutworms, grasshoppers	Wireworms	Armyworms, cutworms, grasshoppers
Tank-mix Options	Herbicides: BISON® 400 L Fungicides: BUMPER® 432 EC, Headline® EC, Quilt®, SORATEL™, TOPNOTCH™	Allegiance®, Apex, Insure®Cereal, Raxil®T, Raxil®MD, Raxil®Pro, Vibrance®Quattro, Vibrance®Maxx RFC	Herbicides: SQUADRON® II, BISON® 400 L Fungicides: Allegro®, BUMPER® 432 EC™, SORATEL™, TOPNOTCH™
Rate* (when used alone)	25–34 ml/ac (standard rate for most pests: 34 ml/ac)	17–50 ml/100 kg seed	25–34 ml/ac (standard rate for most pests: 34 ml/ac)
Rainfastness	1 hour	N/A	1 hour
Mixing Instructions	Confirm compatibility in advance by pre-mixing 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.	Compatibility should always be confirmed by premixing small proportional quantities of water, ZIVATA™, and the tank-mix partner in advance.
Re-Entry Period	12 hours	N/A	12 hours
Grazing Restrictions	DO NOT cut treated fields for hay/forage. DO NOT graze treated fields. DO NOT feed treated crops to livestock. For grasses/non-grasses grown for seed production only. DO NOT feed seed screenings and aftermath to livestock.	N/A	DO NOT cut treated fields for hay/forage. DO NOT graze treated fields. DO NOT feed treated crops to livestock. For grasses/non-grasses grown for seed production only. DO NOT feed seed screenings and aftermath to livestock.
Pre-Harvest Interval	Barley, oats, wheat: 28 days	N/A	Barley, oats, wheat: 28 days
Storage	Do not freeze.	·Do not freeze. ·Agitate vigorously before use.	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.	For best results, apply ZIVATA™ during the early morning before temperatures rise, and during the evening, past the heat of the day.

<sup>1</sup> Suppression only | \* Application rates vary by crop, pest, and disease. Refer to the label for details.

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

## FUNGICIDES

PRODUCT NAME Active Ingredient(s)	<b>BUMPER® 432 EC</b> <small>Low VOC FORMULATED TECHNOLOGY</small> Propiconazole	<b>CUSTODIA®</b> Tebuconazole & Azoxystrobin	<b>ORIOUS® 430 SC</b> Tebuconazole	<b>TOPNOTCH™</b> Azoxystrobin & Propiconazole
Group(s)	3	3 & 11	3	3 & 11
Replaces	Propi Super 25 EC	Unique to ADAMA	Folicur®	Unique to ADAMA, similar to Quilt®
Case Package Size Acres Treated*	<b>2 x 4.8 L jugs/case</b> 40–80 ac/jug	<b>2 x 9.5 L jugs/case</b> 38–50 ac/jug	<b>2 x 9.44 L jugs/case</b> Barley and Wheat: 80–100 ac/jug Oats: 100 ac/jug	<b>2 x 8.6 L jugs/case</b> 40 ac/jug
Registered Crops	Barley, oats, wheat (spring, winter)	Barley, oats, wheat (spring, winter)	Barley, oats, wheat (spring, winter)	Barley, oats, rye, triticale, wheat
Crop Staging	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.	Apply between stem elongation and half-head emerged.
Key Diseases Controlled	Leaf, stem and crown rust, net blotch, powdery mildew, Septoria glume blotch, Septoria leaf spot, Stripe rust, tan spot	Crown rust, Leaf rust, net blotch, septoria leaf blotch, spot blotch, stem rust, stripe rust, tan spot	Fusarium head blight <sup>1</sup> , net blotch, powdery mildew, rusts (leaf, stem, stripe), scald, Septoria glume blotch, Septoria leaf blotch, spot blotch, tan spot	Barley leaf rust, net and spot blotches, scald, Septoria spot, stripe rust, tan spot, wheat leaf rust.
Tank-mix Options	Herbicides: 2,4-D ESTER 700, BADGE®, BROMOTRIL®, MCPA ESTER 600 Insecticides: SILENCER® 120 EC, Ripcord™, ZIVATA™	Manipulator™	ORIOUS® 430 SC is recommended to be used with a registered non-ionic surfactant, such as Agral® 90 or Ag-Surf® @ 0.125% v/v.	Coragen®, Quadris®, SILENCER® 120 EC, ZIVATA™.
Rate* (when used alone)	60–120 ml/acre	190–250 ml/ac	Barley and Wheat: 89–118 ml/acre Oats: 89 ml/ac	210 ml/ac
Rainfastness	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	1. BUMPER® 432 EC 2. Tank-mix partner	1. CUSTODIA® 2. Tank-mix partner NOTE: Use a 50-mesh (or coarser) filter screen.	1. ORIOUS® 430 SC 2. Tank-mix partner 3. Non-ionic surfactant at 0.125% v/v	1. TOPNOTCH™ 2. Tank-mix partner
Re-Entry Period	12 hours	12 hours	12 hours	12 hours
Grazing Restrictions	Do not graze livestock within 3 days of application.	6 days	Do not graze livestock within 6 days of spraying.	Do not graze livestock within 30 days of spraying.
Pre-Harvest Interval	45 days	Mature grains: 36 days Forage, hay: 36 days	Applications may not be made within 36 days of harvest.	45 days
Storage	May be stored at any temperature.	Do not freeze.	Do not freeze.	Do not freeze.
Additional Info	BUMPER® 432 EC should be applied as a preventative disease control measure.	CUSTODIA® should be applied at flag leaf for optimal leaf disease control.	ORIOUS® 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.

These are just a few of our many fungicide offerings.  
To see our full product portfolio for cereals, please visit our website at [ADAMA.com](http://ADAMA.com)

<sup>1</sup> Suppression only | \* Application rates vary by crop, pest, and disease. Refer to the label for details.

 Always read and follow label directions.

# Where has all the innovation gone?

While many crop protection companies have turned their attention to the development of seed technologies and collecting “big data”, only ADAMA remains unapologetically committed to providing the kind of innovative crop protection solutions Canadian growers need today.



WE ARE

**Agile  
Innovation**

Filling the innovation void with unique mixtures and formulations.



WE ARE

**Active  
Ingredients**

Leveraging the world's largest library of actives to accelerate the pace of innovation.



WE ARE

**All About  
Input**

Listening to growers to ensure we're answering their greatest needs.



WE ARE

**Agri-Retail  
Inclusive**

Partnering with retailers to deliver greater value to them and their customers.

WE ARE

**All In  
on you**



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