

# HERBICIDES

**GROUP 1** 

# **LEOPARD®**

ADAMA's grass control product to control hard-to-kill grassy weeds in soybeans, dry beans and cucurbit vegetable crops.



#### **ACTIVE INGREDIENT**

Quizalofop-P-ethyl 100 g/L = EC

#### **PACKAGING**

Case: 2 x 7.8 L jugs

#### **APPLICATION RATES & ACRES TREATED**

Rate: 150 - 290 ml/ac (standard rate: 195 ml/ac)

Acres Treated: 30 – 50 ac/jug (standard rate: 40 ac/jug)

#### **WATER VOLUME**

Ground: 40 L/ac (10 US gal/ac) Aerial: 10 L/ac (2.5 US gal/ac)

#### **RAINFASTNESS**

1 hour

#### **REGISTERED CROPS**

#### Soybeans, plus...

- · Alfalfa, seed
- · Beans (dry & snap)
- · Canola
- · Chickpeas
- · Cucurbit vegetables
- · Lentils

- · Lima, Adzuki & Mung beans (Ontario)
- · Peas (field & processing)
- · Rutabagas (Ontario & Quebec)
- · Sugarbeets

#### WEEDS CONTROLLED

Check label as weed stage controlled by LEOPARD® varies.

- · Barnyard grass
- · Downy brome
- · Fall panicum
- · Foxtail barley
- · Green foxtail
- · Japanese brome
- · Old witchgrass

- · Proso millet
- · Quackgrass1
- Volunteer cereals (wheat, barley, oats)
- · Volunteer corn
- · Wild oats
- Yellow foxtail

#### **HOW IT WORKS**

LEOPARD® is a selective post-emergent herbicide for the control of annual and perennial grasses. LEOPARD® is a systemic herbicide which is rapidly absorbed and readily translocated for the treated foliage to the root systems and growing points of the plant. Treated plants show a reduction in growth and a loss of competitiveness. An early yellowing and browning of the younger plant tissues is followed by a progressive collapse of the remaining foliage. These symptoms will generally be observed in 1–3 weeks depending on the grass species treated and the environmental conditions. This product does not control sedges or broadleaf weeds.

<sup>&</sup>lt;sup>1</sup>Suppression at lower rates; control at higher rates

#### **CROP STAGING**

- · Most crops are tolerant at all stages, so target applications at the optimal weed stage.
- · Always adhere to the pre-harvest interval for each crop.

#### **REGISTERED AND SUPPORTED TANK MIXES**

- · Basagran®
- · Glufosinate
- · PHANTOM® 240 SL

#### **MIXING INSTRUCTIONS**

- 1. Thoroughly clean the sprayer by flushing the system with water containing detergent.
- 2. Fill clean spray tank ½ full with clean water. Start agitation system.
- 3. If tank-mixing LEOPARD® with another pesticide and/or adjuvant, use the following sequence:
  - a. Water conditioning agents
  - b. Wettable Powders (WP)
  - c. Water Dispersable Granules (WDG)
  - d. Suspension Concentrates (SC) or flowables
  - e. Emulsifiable Concentrates (EC) or oil-based products (LEOPARD®)
  - f. Surfactants (NIS, COC, MSO)
- 4. Ensure that the herbicide is completely mixed before proceeding to the
- 5. Add the rest of the required water to the tank. Mix well before applying to the crop.

On repeat tank loads, ensure that the amount of spray solution left in the tank from the previous load is less than 10% of volume about to be mixed.

Do not mix, load or clean spray equipment where there is a potential to contaminate wells or aquatic systems.

#### **ADJUVANT RATES**

- · LEOPARD® is not packaged with, but requires, an adjuvant such as:
- · Merge® at 5-10 litres per 1000 litres of spray solution
- · Sure-Mix™ at 0.5% (0.5 litres per 100 litres of spray solution)
- $\cdot$  LI700® at 0.25 0.5% v/v
- · Liberate™ adjuvant at 0.5% v/v
- · Other non-ionic or methylated seed oil adjuvants

#### **CROP ROTATIONS**

No restrictions

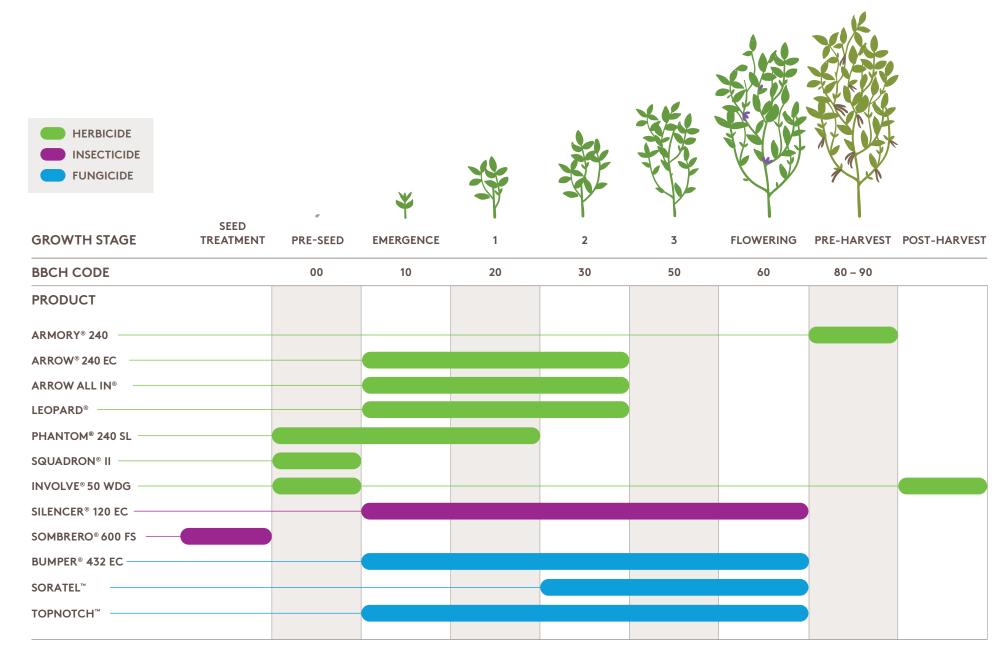
#### PRE-HARVEST INTERVAL

- · Beans (dry and snap), Cucurbits, Faba beans, Rutabagas: 30 days
- · Sugarbeets: 60 80 days
- · Canola: 64 days
- · Lentils, Peas, Small red beans: 65 days
- · Soybeans: 80 days
- · Chickpeas: 85 days

#### **STORAGE**

Do not freeze.

### SOYBEAN GROWTH STAGES



#### **EASTERN CANADA**

	HERBICIDES					
PRODUCT NAME Active Ingredient	ARMORY® 240 Diquat	ARROW® 240 EC Clethodim	ARROW ALL IN® Clethodim	PHANTOM® 240 SL Imazethapyr	SQUADRON® II Metribuzin	INVOLVE® 50 WDG Tribenuron-methyl
Group	22	1	1	2	5	2
Replaces	Regione®	Select®, Centurion®, Shadow®	Select®, Centurion®, Shadow®	Pursuit®	Sencor®	Express® SG
Case Package Size Acres Treated	2 × 10 L/case	3 L + 9 L X-ACT® adjuvant/case 20–60 ac/case, dependent on weed infestations	2 × 6 L jugs/case 20–60 ac/case, dependent on weed infestations	<b>2 × 3.3 L jugs/case</b> 20–26 ac/case	4 × 5 kg jugs/case Rate varies by soil type	<b>10 x 480 g bags/case</b> 800 ac/case
Crop Staging	-	All stages	All stages	Pre-plant, pre-emergent or post-emergent	Pre-plant, pre-plant incorporated, pre-emergence, early post	Pre-seed and post-harvest
Key Pests Controlled	-	Barnyard grass, foxtail (green, yellow), quackgrass, volunteer cereals, wild oats	Barnyard grass, foxtail (green, yellow), quackgrass, volunteer cereals, wild oats	Barnyard grass, cocklebur, common ragweed, crabgrass, eastern black nightshade, foxtail, lady's thumb, lamb's quarters, proso millet, redroot pigweed, smartweed, velvetleaf, wild buckwheat, wild mustard	Ball and wild mustard, barnyard grass, buckwheat, common ragweed, crabgrass, foxtail (green, yellow), green smartweed, lamb's quarters, shepherd's purse, stinkweed, witchgrass	Refer to registered label for complete list of weeds controlled
Pest Staging	-	2- to 6-leaf	2- to 6-leaf	up to 4 <sup>th</sup> true leaf	-	Refer to registered label for complete list of weeds controlled and appropriate weed staging
Tank-Mix Options	Agral® 90, LI 700®, Liberate®	Soybeans (glyphosate-tolerant): glyphosate, PHANTOM® 240 SL or Pursuit®	Soybeans (glyphosate-tolerant): glyphosate, PHANTOM® 240 SL or Pursuit®	ARROW® 240 EC, ARROW ALL IN®, Basagran®, Basagran® Forte, Edge®, glyphosate, glyphosate + FirstRate®, LEOPARD®, Lorox® DF, Sencor®, SQUADRON® II, trifluralin	Axiom®DF, Broadstrike™ Dual, Dual II Magnum®, Frontier®, glyphosate, Lorox® DF, PHANTOM® 240 SL (Pursuit®), Treflan™ E.C.	Aim® EC, Authority®, Dicamba L, glyphosate
Rate (when used alone)	-	Light infestations: 50ml/ac Moderate infestations: 75 ml/ac Quackgrass control: 150 ml/ac	Light infestations: 100 ml/ac Moderate infestations: 150 ml/ac Quackgrass control: 300 ml/ac	Early pre-plant*, pre-emerge: 170 ml/ac Pre-plant incorporated: 126 ml/ac "if weeds are emerged, a + non-ionic surfactant at 0.25% v/v must be added.	rate varies by soil type	6g/acre
Rainfastness	30 minutes	1 hour	1 hour	up to 8 hours	6 hours after foliar application	Avoid if heavy rain is in the forecast.
Mixing Instructions	-	<ol> <li>Tank-mix partner</li> <li>ARROW® 240 EC</li> <li>X-ACT® surfactant</li> </ol>	1. Tank-mix partner 2. ARROW ALL IN®	<ol> <li>PHANTOM® 240 SL</li> <li>Tank-mix partner</li> <li>Non-ionic surfactant like Agral® 90 or Ag-Surf® at 0.25% v/v</li> <li>Fertilizer (if desired) at 28% or 32% (post-emerge only)</li> </ol>	1. SQUADRON® II 2. Tank-mix partner	<ol> <li>INVOLVE® 50 WDG</li> <li>Tank-mix partner</li> <li>Surfactant</li> </ol>
Re-Entry Period	12 hours	12 hours	24 hours	12 hours	12 hours	12 hours
Pre-Harvest Interval	_	75 days	75 days	100 days	60 days	30 days
Additional Info	Avoid morning and evening applications	Must be mixed with X-ACT® adjuvant	Adjuvant built into the formulation	Residual control helps with early season weed competition.	Flexible applications for broad-spectrum weed control	Activity of the herbicide mixture 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 soybeans, please visit our website at ADAMA.com

#### **EASTERN CANADA**

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Active Ingredient

Group

Replaces

Case Package Size Acres Treated

**Crop Staging** 

Key Pests or Diseases Controlled

Pest/Disease Staging

Tank-Mix Options

Rate (when used alone)

Rainfastness

Mixing Instructions

Re-Entry Period

Pre-Harvest Interval

Additional Info

INSECTICIDES		FUNGICIDE		
SILENCER® 120 EC Lamba-cyhalothrin	SOMBRERO® 600 FS Imidacloprid	BUMPER® 432 EC Propiconazole		
3	4	3		
Matador®	Stress Shield®	Tilt®		
<b>4 × 3.785 L</b> 160–450 ac/case	<b>8 × 1.54 L</b> 60–120 ac/case	2 × 4.8 L 80 ac/case		
Any stage	Seed treatment	Surface and systemic protection See tank-mix partner labels if spraying at herbicide timing.		
Soybean aphid, bean aphid, grasshoppers, cutworms, lygus bug, bean leaf beetle	Bean leaf beetle, seedcorn maggot, soybean aphid, wireworm	Blight, blotches, brown rot, powdery mildew, rusts, septoria spot, scalds, tan spot		
When insects are present	Used as a protective seed treatment	Apply when disease first appears. Under severe disease pressure, make a second application 14 days after the first application.		
BUMPER® 432 EC	Apron-Maxx RTA®	SILENCER® 120 EC		
33–94 ml/ac (see label for rates by pest)	47 – 94 ml/100 lbs of seed	120 ml/ac		
Avoid application when heavy rain is forecast.	Not Applicable	1 hour		
Confirm compatibility in advance by premixing small proportional quantities of water with SILENCER® 120 EC and the tank-mix partner.	<ol> <li>Fungicide</li> <li>Coating agents</li> <li>SOMBRERO® 600 FS</li> </ol>	1. BUMPER ® 432 EC 2. Tank-mix partner		
24 hours	Not Applicable	12 hours		
21 days	Not Applicable	50 days		
For best results, apply below 25°C.	Apply at 10°C or warmer due to high viscosity.	Do not mix with copper products, jar test.		

# 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

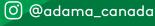
It can be that simple.



## Listen - Learn - Deliver

ADAMA.COM 1.855.264.6262







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