



ADAMA

PEA GUIDE

CONSIDER YOUR OPTIONS OPEN

HERBICIDE

INSECTICIDE

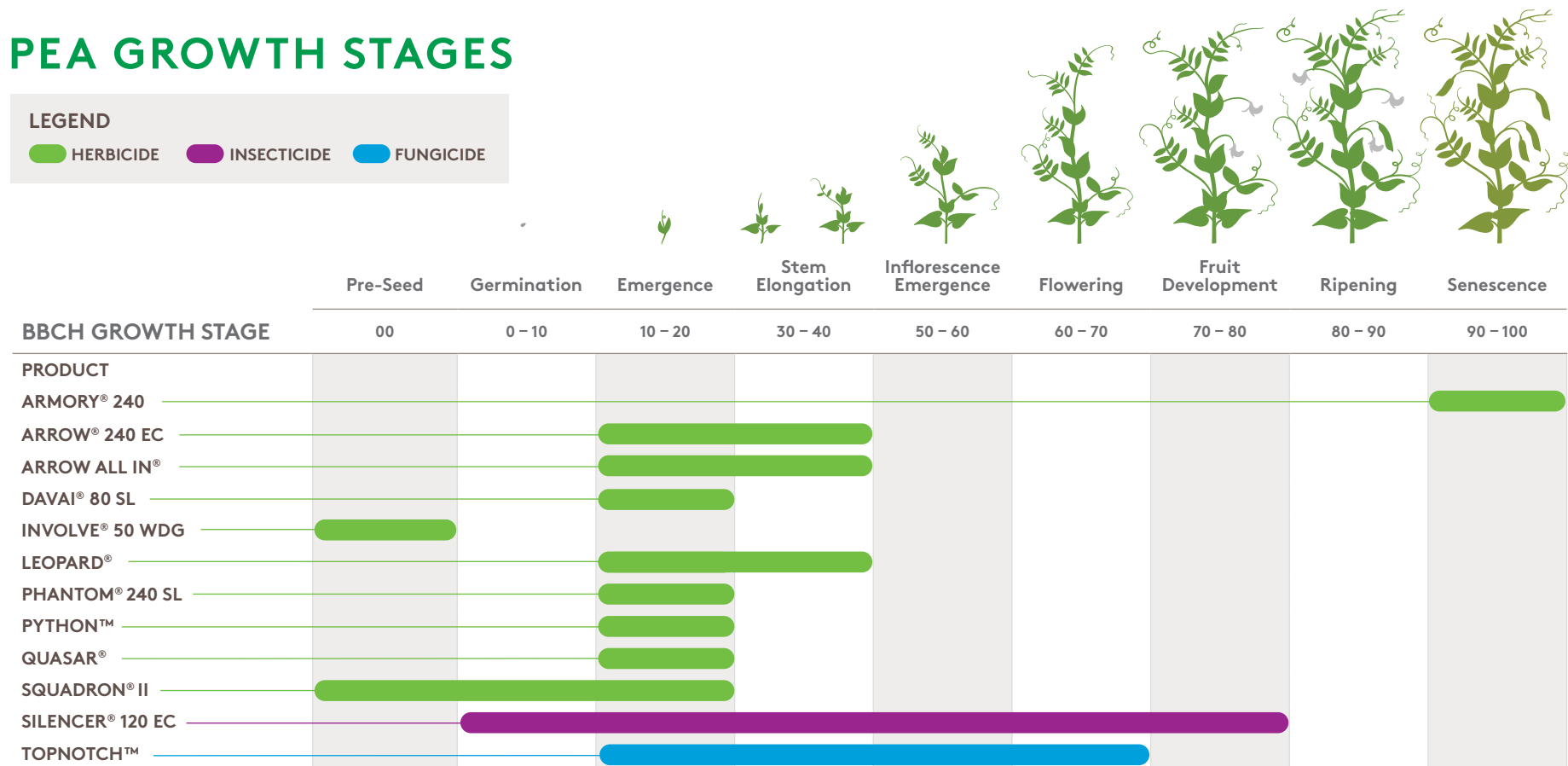
FUNGICIDE



For over two decades, Canadian pea growers looking for crop protection solutions haven't had much of a choice. So, we're shaking things up.

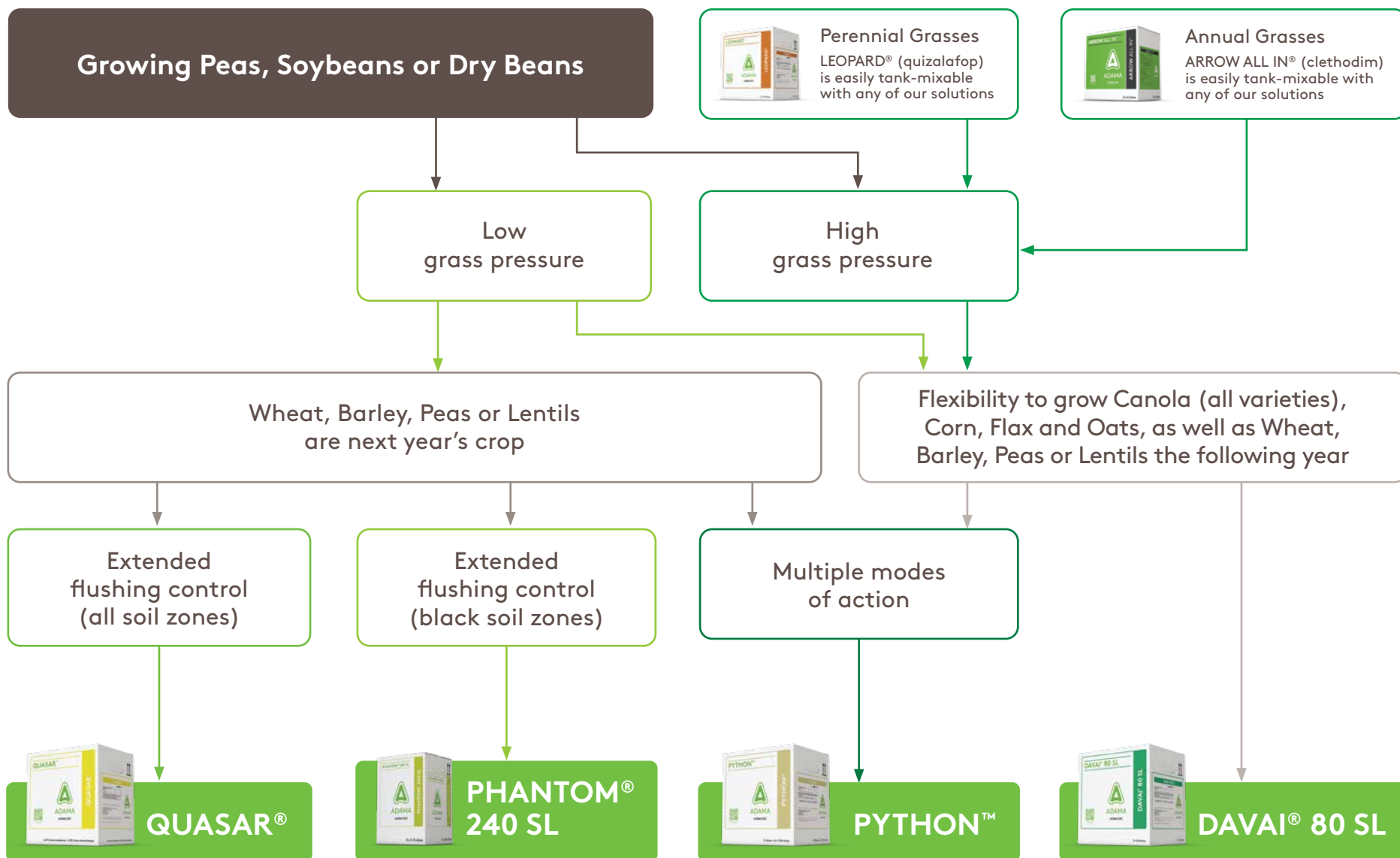
Why? Because we know that every field and every season presents their own unique challenges and Canadian growers deserve more than a one-size-fits-all approach. In addition, we're proud to offer our full portfolio of herbicides, fungicides and insecticides to help you protect your peas all season long. Our crop protection solutions are as unique as your field, offering customizable options formulated to help you get the most out of your pea acres, with no strings attached. That's right — no more deciphering complicated programs or bundling products you want with products you don't. Just effective, easy-to-use products to help you solve your biggest challenges from seeding to harvest.

PEA GROWTH STAGES





HERBICIDE DECISION TREE



SPRAYING SIMPLIFIED Find the right product and spray timing to protect your peas

UNDERSTANDING YOUR HERBICIDE OPTIONS

PRODUCT NAME	DAVAI® 80 SL	DAVAI® 80 SL + LEOPARD®	INVOLVE® 50 WDG	PHANTOM® 240 SL	PHANTOM® 240 SL + ARROW ALL IN®	PHANTOM® 240 SL + LEOPARD®
When to Use	Low grass pressure, freedom to grow canola, flax and oats the following year, as a tank mix with glyphosate in RR soybeans to control RR canola.	Harder to kill brome grass pressure, freedom to grow canola, flax and oats the following year.	Pre-seed, post-harvest or summerfallow applications to control of both broadleaf and grassy weeds.	Black soil zone, looking for flushing control of shallow germinating weeds, with relatively low grass pressure, cleavers and hempnettle control.	Black soil zone, higher grass pressure looking for flushing control of shallow germinating weeds, with high grass pressure, cleavers and hempnettle control.	Black soil zone, looking for flushing control of shallow germinating weeds, with brome grass pressure, cleavers and hempnettle control.
Replaces	Solo® ADV/Solo® WDG	Solo® + Assure® II	Express® SG	Pursuit®	Pursuit® + Poast® Ultra	Pursuit® + Assure® II
Registered Crops	Peas, Soybeans, Dry beans	Peas, Soybeans, Dry beans	Dry beans, Faba bean, Field pea, Soybean	Peas, Soybeans, Dry beans, Alfalfa	Peas, Soybeans, Dry beans	Peas, Soybeans, Dry beans
Crop Staging	Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry beans: 1–2 leaf	Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry Beans: 1–2 leaf	Pre-seed, Post-harvest	Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry beans: up to 2 trifoliolate	Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry beans: up to 2 trifoliolate	Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry beans: up to 2 trifoliolate
Rate Of Application	100 ml/ac DAVAI® 80 SL	100 ml/ac DAVAI® 80 SL + 190 ml/ac LEOPARD®	6 g/ac	85 ml/ac PHANTOM® 240 SL	85 ml/ac PHANTOM® 240 SL + 150 ml/ac ARROW ALL IN®	85 ml/ac PHANTOM® 240 SL + 190 ml/ac LEOPARD®
Adjuvant & Rate	Merge or a methylated seed oil adjuvant at 0.5% v/v, or a non-ionic adjuvant at 0.25% v/v	Merge or a methylated seed oil adjuvant at 0.5% v/v, or a non-ionic adjuvant at 0.25% v/v	Agral® 90 @ 0.35% v/v	Nonionic surfactant 0.25% v/v	Not required	Merge or a methylated seed oil adjuvant at 0.5% v/v, or a non-ionic adjuvant at 0.25% v/v
Re-Cropping	Barley, Canary seed, Canola, Chickpeas, Corn, Peas, Flax, Lentils, Oats, Soybeans, Clearfield® sunflowers, Spring wheat, Durum wheat	Barley, Canary seed, Canola, Chickpeas, Corn, Peas, Flax, Lentils, Oats, Soybeans, Clearfield® sunflowers, Spring wheat, Durum wheat	For crops other than cereals, allow a minimum interval between application and planting of 2 months. After 2 months canola, flax, lentils and alfalfa can be seeded.	Alfalfa, Peas, Lentils, Spring barley, Spring wheat	Alfalfa, Peas, Lentils, Spring barley, Spring wheat	Alfalfa, Peas, Lentils, Spring barley, Spring wheat
Weed Stage at Application	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 1–4 true leaf	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 2 leaf to early tillering	Early growth stage of weeds up to 15 cm, see label for details.	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 1–4 true leaf	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 1–6 true leaf	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 2 leaf to early tillering



Always read and follow label directions.

UNDERSTANDING YOUR HERBICIDE OPTIONS

QUASAR®	QUASAR® + ARROW ALL IN®	QUASAR® + LEOPARD®	PYTHON™	SQUADRON® II
All soil zones, flushing weed control of shallow germinating weeds.	All soil zones, flushing weed control of shallow germinating weeds, higher grass pressure.	All soil zones, flushing weed control of shallow germinating weeds with brome grass pressure.	Multiple modes of action to manage resistant biotypes.	Pre-seed or a post-emergence application giving you another tool to fight weed resistance.
Odyssey®/Odyssey® NXT	Odyssey® Ultra	Odyssey® + Assure® II	Viper® ADV	Sencor®
Peas, Soybeans, Dry beans	Peas, Soybeans, Dry beans	Peas, Soybeans, Dry beans	Peas, Soybeans, Dry beans	Peas, Soybeans, Lentils
Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry beans: 1–2 leaf	Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry beans: 1–2 leaf	Soybeans: emergence to 3 expanded trifoliolate leaves; Peas: 1–6 true leaf stage; Dry Beans: 1–2 leaf	Soybeans: unifoliolate to 2 expanded trifoliolate leaves; Peas: 3–6 true leaf stage; Dry Beans: 1–3 trifoliolate	Pre-seed incorporation or post emergence – pea vines must be less than 6 inches long at time of post-emergent spraying
80 ml/ac DAVAI® 80 SL + 26 ml/ac PHANTOM® 240 SL	80 ml/ac DAVAI® 80 SL + 26 ml/ac PHANTOM® 240 SL + 150 ml/ac ARROW ALL IN®	80 ml/ac DAVAI® 80 SL + 26 ml/ac PHANTOM® 240 SL + 190 ml/ac LEOPARD®	100 ml/ac PYTHON™ A + 364 ml/ac PYTHON™ B	Post-emergence: SQUADRON® II 275-375 g/ha Pre-plant: incorporated (Spring) – SQUADRON® II 375-475 g/ha + 1.7-3 L/ha Treflan® EC or 2.2-2.8 L/ha Rival® EC
Merge or a methylated seed oil adjuvant at 0.5% v/v, or a non-ionic adjuvant at 0.25% v/v	Not required	Merge or a methylated seed oil adjuvant at 0.5% v/v, or a non-ionic adjuvant at 0.25% v/v	Merge or a methylated seed oil adjuvant at 0.5% v/v, or a non-ionic adjuvant at 0.25% v/v	Not required
Clearfield® canola, Spring barley, Spring wheat, Lentils, Peas	Clearfield® canola, Spring barley, Spring wheat, Lentils, Peas	Clearfield® canola, Spring barley, Spring wheat, Lentils, Peas	Barley, Canary seed, Canola, Chickpeas, Corn, Peas, Flax, Lentils, Oats, Soybeans, Clearfield® sunflowers, Spring wheat, Durum wheat	Specialty crops and non-triazine-tolerant canola (rapeseed) are sensitive to SQUADRON® II and may be injured if seeded in soil treated with SQUADRON® II during the year of application or the following crop year. Fall seeded or cover crops such as wheat, oats and rye may be injured when seeded within the same season as the application of SQUADRON® II.
Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 1–4 true leaf	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 1–6 true leaf	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 2 leaf to early tillering	Broadleaf Weeds: cotyledon to 4 leaf, Grasses: 1–4 true leaf	Pre-emergent to early post-emergent

BROADLEAF WEEDS CONTROLLED BY PRODUCT

Product Name	Weed Stage at Application	Chickweed	Cleavers	Cow cockle	Flixweed	Green smartweed	Hempnettle	Kochia	Lamb's quarters	Redroot pigweed	Russian thistle	Shepherd's purse	Stinkweed	Stork's bill	Tartary buckwheat	Volunteer canola	Wild buckwheat	Wild mustard
DAVAI® 80 SL	cotyledon to 4 leaf	–	S	C	C	C	–	–	C	C	–	C	C	C	–	C ⁴	S	C
DAVAI® 80 SL + LEOPARD®	cotyledon to 4 leaf	–	S	C	C	C	–	–	C	C	–	C	C	C	–	C ⁴	S	C
INVOLVE® 50 WDG + Glyphosate 270 g a.e/ha + Agral 90	Up to 8 cm (unless otherwise noted)	–	–	–	–	–	–	C ²	C ²	S ²	S ²	–	C	–	–	C ³	C	C
INVOLVE® 50WDG + Glyphosate 450 g a.e/ha	Up to 15 cm (unless noted otherwise)	–	–	C ¹	C	–	C	C	C	C	C	–	C	–	–	C	C ¹	C
PHANTOM® 240 SL	cotyledon to 4 leaf	C	C	–	–	C	C	–	–	C	–	C	C	–	–	C ⁴	S	C
PHANTOM® 240 SL + ARROW ALL IN®	cotyledon to 4 leaf	C	C	–	–	C	C	–	–	C	–	C	C	–	–	C ⁴	S	C
PHANTOM® 240 SL + LEOPARD®	cotyledon to 4 leaf	C	C	–	–	C	C	–	–	C	–	C	C	–	–	C	S	C
QUASAR®	cotyledon to 4 leaf	C	–	–	–	C	–	–	C	C	–	–	C	–	–	S	S	C
QUASAR® + ARROW ALL IN®	cotyledon to 4 leaf	C	–	–	–	C	–	–	C	C	–	–	C	–	–	S	S	C
QUASAR® + LEOPARD®	cotyledon to 4 leaf	C	–	–	–	C	–	–	C	C	–	–	C	–	–	S	S	C
PYTHON™	cotyledon to 4 leaf	–	S	C	C	C	–	–	C	C	–	C	C	C	–	C	C	C
SQUADRON® II	Pre-emergent to early post-emergent	C	–	C ^{6,7}	–	C	C	C ⁷	C	C ^{6,7}	C ⁶	C ^{6,7}	C	–	C	C ⁵	C ^{6,7}	C ^{6,7}

^C control | ^S suppression | ¹ Up to 3 leaf stage | ² Up to 10 cm | ³ Any stage | ⁴ non-Clearfield® varieties only | ⁵ non-triazine tolerant canola only
⁶ pre-plant incorporated with Treflan® Liquid EC herbicide | ⁷ pre-plant incorporated with Rival® EC herbicide

GRASSY WEEDS CONTROLLED BY PRODUCT

Product Name	Weed Stage at Application	Barnyard grass	Crabgrass	Downy brome	Fall panicum	Foxtail barley	Green foxtail	Japanese brome grass	Witch grass	Persian darnel	Proso millet	Quack grass	Volunteer barley	Volunteer canary seed	Volunteer corn	Volunteer durum wheat	Volunteer tame oats	Volunteer wheat	Wild oats	Yellow foxtail
DAVAI® 80 SL	1–4 true leaf	C	–	–	–	–	C	S	–	C	–	–	C	C	–	C	C	C	C	C
DAVAI® 80 SL + LEOPARD®	2 leaf to early tillering	C	–	C ¹	C	C ²	C	C ¹	C	–	C	S	C	–	C	C	C	C	C ³	C
INVOLVE® 50 WDG + Glyphosate 270 g a.e/ha + Agral 90	Up to 8 cm (unless otherwise noted)	–	–	–	–	–	C	–	–	–	–	–	C	–	–	C	C	C	C	–
INVOLVE® 50 WDG + Glyphosate 450 g a.e/ha	Up to 15 cm (unless otherwise noted)	–	–	C	–	–	C	–	–	C	–	–	C	–	–	C	C	C	C	–
PHANTOM® 240 SL	1–4 true leaf	–	–	–	–	–	C	–	–	–	–	–	–	–	–	–	–	–	C	–
PHANTOM® 240 SL + ARROW ALL IN®	1–6 true leaf	C	C	–	C	–	C	–	C	C	C	S	C	C	C	C	C	C	C	C
PHANTOM® 240 SL + LEOPARD®	2 leaf to early tillering	C	–	C ¹	C	C ²	C	C ¹	C	–	C	S	C	–	C	C	C	C	C ³	C
QUASAR®	1–4 true leaf	S	–	–	–	–	C	–	–	–	–	–	S	–	–	–	C	–	C	C
QUASAR® + ARROW ALL IN®	1–6 true leaf	C	C	–	C	–	C	–	C	C	C	S	C	C	C	C	C	C	C	C
QUASAR® + LEOPARD®	2 leaf to early tillering	C	–	C ¹	C	C ²	C	C ¹	C	–	C	S	C	–	C	C	C	C	C ³	C
PYTHON™	1–4 true leaf	C	–	–	–	–	C	S	–	C	–	–	C	C	–	C	C	C	C	C
SQUADRON® II	Pre-emergent to early post-emergent	C ^{6,7}	–	C ^{6,7}	–	–	C ^{6,7}	–	–	C ^{6,7}	–	–	–	–	–	–	–	–	C ^{6,7}	C ^{6,7}

C control | S suppression | ¹ 2–5 leaf stage | ² 3 leaf to 4 leaf + 3 tillers | ³ 1–5 leaf up to 2 tillers | ⁴ non-Clearfield® varieties only | ⁵ non-triazine tolerant canola only
⁶ pre-plant incorporated with Treflan® Liquid EC herbicide | ⁷ pre-plant incorporated with Rival® EC herbicide

INSECTICIDE

SILENCER® 120 EC

SILENCER® 120 EC controls pea aphid, pea leaf weevil, cutworm and grasshoppers in your peas.



ACTIVE INGREDIENT:

Lambda-cyhalothrin 120 g/L = EC

CHEMISTRY GROUP:

Group 3

APPLICATION RATES AND ACRES TREATED:

- Rate: 17 – 51 ml/ac; standard rate: 33 ml/ac
- Acres Treated: 74 – 220 ac/jug; standard rate: 113 ac/jug
- Standard rate is applicable for most pests, refer to label for more information.

PACKAGING:

- Case: 4 x 3.785 L jug/case

REGISTERED PULSE CROPS:

- | | | |
|-------------|-----------|------------|
| · Beans | · Lentils | · Soybeans |
| · Chickpeas | · Peas | |

SILENCER® 120 EC is registered for use on more than 30 crops; refer to the label for more information.

HOW IT WORKS:

Fast-acting stomach and contact insecticide.

WATER VOLUME:

Ground: 40 – 80 L/ac (10 – 20 US gal/ac)
Aerial: 4 – 16 L/ac (1 – 4 US gal/ac)

PRE-HARVEST INTERVAL FOR PULSE CROPS:

21 days

GRAZING RESTRICTIONS:

Do not graze livestock within 3 days of application.



PEA APHID

Rate: 33–93 ml/ac

Application Method: Ground or aerial

Timing: Use higher rate when conditions favour rapid population increases.

Photo: CC BY SA 3.0 Image courtesy of Andreas Eichler



PEA LEAF WEEVIL

Rate: 33 ml/ac

Application Method: Ground or aerial

Timing: Make the first application after emergence but prior to the 5 to 6 node stage. Apply while the adults are still present on the plants, before egg laying begins.

Photo: © entomart



CUTWORM

Rate: 33 ml/ac

Application Method: Ground or aerial

Timing: Cutworm activity is greatest during the late evening and night. Application should be timed as close as possible to insect feeding activity

Photo: Public Domain



GRASSHOPPER

Rate: 33 ml/ac

Application Method: Ground or aerial

Timing: The need and timing of application should be based on the presence of vulnerable pest developmental stages and significant populations as determined by local monitoring.

Photo: CC BY 2.0 Image courtesy of Mike Bowler



TOPNOTCH™

A new broad spectrum, multi-mode of action option for control of dangerous diseases in pulses as well as cereal leaf diseases.



ACTIVE INGREDIENTS:

Azoxystrobin 143 g/L and Propiconazole 124 g/L = SC

CHEMISTRY GROUPS:

Group 3 (propiconazole) and Group 11 (azoxystrobin)

APPLICATION RATES AND ACRES TREATED:

· Rate: 210 – 620 ml/ac · Acres Treated: 14 – 40 ac/jug

PACKAGING:

· Case: 2 x 8.6 L jugs

KEY BENEFITS:

- Multiple modes of action for resistance management
- Curative and preventative systemic action
- Can use on multiple crops with exceptional crop safety
- Registered for both ground and aerial spraying

REGISTERED CROPS:

- Barley
- Edible beans
- Peas
- Lentils
- Oats
- Rye
- Soybeans
- Triticale
- Wheat

KEY DISEASES CONTROLLED IN PEAS:

- Anthracnose
- Ascochyta blight
- Mycosphaerella blight
- Powdery mildew
- White mould*

LEAF DISEASES CONTROLLED IN CEREALS:

- Barley leaf rust
- Net and spot blotches
- Scald
- Septoria spot
- Stripe rust
- Tan spot
- Wheat leaf rust

* Suppression

HOW IT WORKS:

Used as both a curative and preventative fungicide, TOPNOTCH™ has broad-spectrum, systemic and contact activity.

APPLICATION TIMING AND CROP STAGING:

Crop	Diseases	Application Timing	Rate
Beans, Peas, Lentils, Soybeans	Mycosphaerella blight, Anthracnose	Make the first application at the first sign of disease. Apply the high rate only under conditions of high disease pressures. A second application 14 days later may be needed if conditions persist. Good spray coverage and canopy penetration are important for best results.	310 – 620 ml/ac
	Powdery mildew, White mould (suppression only)		310 ml/ac

See label for additional crop information.

WATER VOLUME:

Ground: Minimum 40 L/ac or 10 gal/ac
Aerial: Minimum 20 L/ac or 5 gal/ac

PRE-HARVEST INTERVALS:

- Cereals: 45 days
- Peas, Beans and Soybeans: 15 days
- Lentils: 30 days

GRAZING RESTRICTIONS:

No restrictions.



MYCOSPHAERELLA BLIGHT:

Damage: The pathogen produces irregular purple spots on leaves, stems, flowers and pods. These spots enlarge and coalesce, drying the tissues and causing blossom drop, stem blight and foot rot. Infected pods may produce infected seeds that are shrunken and discoloured. The impact on yield depends on the timing of the initial infection and weather conditions. When infections originate within the same field, disease can develop early, increasing the likelihood of damage. When initial infection occurs at the base of the plant, foot rot can occur, causing premature lodging and death of plant.

Life Cycle: Infections originate from the soil, stubble or seed borne inoculum.

Photo: CC by SA 4.0 Image courtesy Peketichinna



POWDERY MILDEW

Damage: The pathogen causes white powdery spots, composed of conidia and mycelium, on lower leaves and stems. Severely affected crops become covered in a white mat of powdery spores. Infection can result in reduced yields, delayed maturity and reduced uptake of desiccants.

Life Cycle: Infection of pea crops usually begins at bloom (mid-July) and continues well into the summer. Once the disease is present in a field, conidia produced in infected tissues can cause continued spread of the disease throughout the growing season.

Photo: CC BY 3.0 Image courtesy Clemson University



WHITE MOULD

Damage: The pathogen that causes white mould is the same pathogen that causes white mould on other broadleaf crops (canola, dry edible beans, soybeans, sunflower, etc.). Lesions and white fluffy mould can occur on all above ground plant parts. Lesions being as water-soaked spots but take on the characteristic white, bleached color as they age. White fluffy growth may occur on lesions, particularly when canopies are wet for long periods of time.

Life Cycle: The pathogen overwinters in the mouse-dropping size black fungal structures (sclerotia) at the end of the season. When adequate rain occurs in the spring and the soil is saturated (or near saturated), these sclerotia produce small mushrooms (apothecia) that release airborne spores. The infection process begins when spores land on flower petals, begin to digest them, and the subsequent fungal growth moves into healthy tissue. Consequently, peas are not at risk for infection until bloom begins. For infection to occur, the soils must be wet enough to produce the small mushrooms 1–2 weeks before bloom. White mould is very dependent on cool and wet conditions for disease to develop.

Photo: Courtesy of Canola Council of Canada



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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