2020 Field Records

A useful record-keeping tool and quick reference guide for potato growers.

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Accurate record keeping – made easier.

Information at your fingertips. At Syngenta, we know you're busy. This guide provides quick and easy access to the information you need to record your potato field applications.

For additional information, visit Syngenta.ca, contact our Customer Interaction Centre at 1-87-SYNGENTA (1-877-964-3682) or follow @SyngentaCanada on Twitter.

Here's to a successful growing season!

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eedcaretm and soil-applied Nsecticides and fungicides

Seedcare[™] and soil-applied insecticides and fungicides

Actara[®]240SC

Protect your potato crop from early season insect pests.

An application of Actara[®] 240SC insecticide on your potato seed pieces or at planting is what your crop needs for residual protection. Once inside the plant, Actara 240SC delivers effective protection into the growing season.



Active ingredient:

• Thiamethoxam (Group 4A insecticide)



- PCP number:
- 28407



WALES symbol: • L



For control of:

- Aphids (buckthorn, foxglove, green peach, potato)
- Colorado potato beetle
- Potato leafhopper



Packaging:

• Each case contains 2 x 2.04 L jugs



Use information:

Rate:

- Seed treatment: Apply no more than 488 mL/ha (197.6 mL/ac)
- In-furrow: Apply 3.4–4.4 mL/100 m row (151–196 mL/ac with 36" row spacing)
- At the registered high rate, one jug of Actara 240SC treats approximately 10 acres when applied in-furrow

PHI: Maximum applications/season:

In-furrow: N/A

Seed treatment or in-furrow: 1



A powerful, all-in-one formulation.

Cruiser Maxx[®] Potato Extreme seed treatment provides comprehensive protection for your crop. With two fungicides for early-season control of key seed-borne diseases, plus an insecticide that delivers reliable insect control, the all-in-one liquid formulation helps get your crop off to the right start.



Active ingredients:

- Fludioxonil (Group 12 fungicide)
- Difenoconazole (Group 3 fungicide)
- Thiamethoxam (Group 4A insecticide)



PCP number:

• 31024



For control of:

Diseases:

- Black scurf*, stem and stolon canker (Rhizoctonia solani)
- Fusarium dry rot (Fusarium spp.)
- Silver scurf (Helminthosporium spp.)

Insects:

Colorado potato beetle
 Aphids
 Potato leafhopper



Packaging:

• One case contains 2 x 9.6 L jugs



Use information:

Rate:

- 20 mL/100 kg seed (9 mL/cwt)
- One jug of Cruiser Maxx Potato Extreme will treat 1058 cwt
- To determine your use rate per acre, multiply 9.1 mL by your seeding rate (in cwt)

PHI: N/A

*Suppression only.



Take action early with Elatus in-furrow.

Combat soil-borne diseases early with Elatus[®] fungicide. An in-furrow application of Elatus protects your potato crop and will help to minimize the effects of Rhizoctonia for improved marketable yield.



Active ingredient:

- Azoxystrobin (Group 11 fungicide)
- Solatenol® (Group 7 fungicide)



PCP number:

- Elatus A 31973
- Elatus B 31977

• Flatus A - I

• Elatus B - E

For control of:

- Silver scurf (Helminthosporium solani)
- Stem and stolon canker (Rhizoctonia spp.)
- Black scurf (Rhizoctonia solani)
- Verticillium wilt (Verticillium dahliae)*

Packaging:

• Each case contains 1 x 8.1 L jug of Elatus A and 1 x 8.1 L jug of Elatus B



Use information:

Elatus A - In-furrow:

• Apply 4–6 mL/100 m row (178–267 mL/ac with 36" row spacing)

Elatus B - In-furrow:

- Apply 500–750 mL/ha (202–303 mL/ac)
- When targeting silver scurf and *Rhizoctonia* spp., one case will treat up to 40 acres
- See label for specific recommendations when targeting Verticilium wilt

PHI: REI:

N/A 12 hours

Apply as an in-furrow spray in 50–140 L/ha of water at planting. Mount the spray nozzle so the spray is directed into the furrow in a 15 to 20 cm band just before the seed is covered. In-furrow application only.

Maximum applications/season:

Apply once in-furrow.

If an application of Elatus is made, DO NOT make more than one application of Aprovia® Top fungicide in subsequent foliar applications.

*Suppression only



A different mode of action for control of Colorado potato beetle.

Fortenza® insecticide is a non-neonicotinoid seed treatment that protects potatoes from Colorado potato beetle from early- to mid-season. It belongs to the Group 28 class of diamides, and is designed to be delivered in low volumes.



Active ingredient:

• Cyantraniliprole (Group 28 insecticide)

РСР

PCP number:

• 30899

For control of:

- Colorado potato beetle¹
- 0

Packaging:

• 2 x 8 L case

Use information:

Rate:

- 10-22.5 mL/100 kg of seed pieces
- Fortenza can be tank-mixed with Vibrance[®] Ultra Potato fungicide for control of seed-borne silver scurf, Fusarium dry rot, black scurf, stem and stolon canker and late blight, as well as suppression of seed-borne pink rot
- One jug applied at 17 mL/100 kg seed will treat 1,037 cwt
- To determine the use rate per acre at the mid rate, multiply 7.7 mL by your seeding rate (in cwt)

PHI: N/A

Maximum applications/season:

• Do not make a subsequent in-furrow, soil or foliar application of a Group 28 insecticide following application of Fortenza seed treatment for Colorado potato beetle

¹ Protection provided during early- to mid-season growth and development of potatoes only.



Looking for a liquid fungicide-only seed treatment? Choose Maxim D.

When using Maxim[®] D seed treatment for seed-borne disease control, consider a Syngenta insecticide in-furrow or on the seed to provide early-season insect protection.



Active ingredients:

- Fludioxonil (Group 12 fungicide)
- Difenoconazole (Group 3 fungicide)



PCP number:

• 30599



For control of:

- Black scurf*, stem and stolon canker (Rhizoctonia solani)
- Fusarium dry rot (Fusarium spp.)
- Silver scurf (Helminthosporium solani)



Packaging:

• Each case contains 2 x 9.2 L jugs



Use information:

Rate:

- 65–130 mL/100 kg of seed
- The standard rate is 65–130 mL/100 kg of seed for Fusarium dry rot (*Fusarium* spp.), black scurf*, and stem and stolon canker (*Rhizoctonia solani*)
- 130 mL/100 kg of seed for silver scurf (Helminthosporium solani)
- Use the high rate when disease pressure and/or resistance pressure is high
- One jug of Maxim D applied at 65 mL/100 kg seed will treat 312 cwt
- To determine your use rate per acre, multiply 29.5 mL by your seeding rate (in cwt)

PHI: N/A

*Suppression at the low rate.



The dust standard for protection.

For growers who want to apply a dust seed treatment, Maxim[®] MZ PSP is the standard for protection. In addition to controlling Fusarium, Maxim MZ PSP also protects against Rhizoctonia and silver scurf.



Active ingredients:

- Fludioxonil (Group 12 fungicide)
- Mancozeb (Group M-3 fungicide)



PCP number:

• 27965



For control of:

- Black scurf, stem and stolon canker (Rhizoctonia solani)
- Fusarium dry rot (Fusarium spp.)
- Silver scurf (Helminthosporium solani)



Packaging:

• 10 kg bag



Use information:

Rate:

- 500 g/100 kg of cut seed
- One 10 kg bag of Maxim MZ PSP will treat approximately 44 cwt of cut seed
- To determine your use rate per acre, multiply 0.227 kg by your seeding rate (in cwt)

PHI: N/A



Rhizoctonia and silver scurf seed protection.

If you're looking for a basic dust seed treatment for protection against Rhizoctonia and silver scurf, Maxim[®] PSP fungicide is a suitable choice.



Active ingredients:

• Fludioxonil (Group 12 fungicide)

PCP

PCP number:

• 26647

STOP

For control of:

- Black scurf (Rhizoctonia solani)
- Fusarium (Fusarium spp.)*
- Silver scurf (Helminthosporium solani)



Packaging:

10 kg bag



Use information:

Rate:

- 500 g/100 kg of cut seed
- One 10 kg bag of Maxim PSP will treat approximately 44 cwt of cut seed
- To determine your use rate per acre, multiply 0.227 kg by your seeding rate (in cwt)

PHI: N/A

*There is known Fusarium resistance to fludioxonil. If control of Fusarium is required, we recommend applying Cruiser Maxx Potato Extreme, Maxim D, Maxim MZ PSP, or Vibrance® Ultra Potato.



Two systemic active ingredients for extended control.

Minecto[®] Duo insecticide applied in-furrow protects emerging plants thanks to two systemic active ingredients that combine to provide extended control of Colorado potato beetles and later-emerging pests. With two active ingredients, Minecto Duo provides long-lasting, consistent control.



Active ingredients:

- Cyantraniliprole (Group 28 insecticide)
- Thiamethoxam (Group 4A insecticide)



PCP number:

• 30900



WALES symbol:

• W



For control of:

- Colorado potato beetle
- Flea beetle
- Aphids
- Potato leafhopper



Packaging:

• One case contains 2 x 3.04 kg jugs



Use information:

Rate:

- In-furrow: 440–700 g/ha (178–283 g/ac)
- One case of Minecto Duo applied at 243 g/ac will treat 25 acres

PHI: N/A

REI: 12 hours

Maximum applications/season: 1

Do not use a foliar application of a product containing a Group 4 insecticide following an in-furrow application of Minecto Duo.



Is pink rot on your radar? Defend your crop with Orondis Gold.

Orondis[®] Gold fungicide secures early crop establishment and protects tubers to help maximize marketable yields even after potatoes have gone into storage.

Active ingredients:

- Metalaxyl-M (Group 4)
- Oxathiapiprolin (Group 49)

РСР

PCP number: • 33508

W

WALES symbol: • F

STOP

For suppression of:

- Pink rot (Phytophthora erythroseptica)
- Pythium leak (Pythium spp.)



Packaging:

• One case contains 4.1 L jugs

0

Use information:

Rate:

- In-furrow: Apply 18.3 mL/100 m row 0.82 L/ac (2 L/ha) with 36" row spacing
- One case will treat 20 acres on a 36" row spacing

PHI: N/A

REI: 12 hours

Maximum applications/season: 1

If Orondis Gold is applied in-furrow, foliar applications of Orondis Ultra will not be permitted.

Is pink rot on your radar?

Defend your crop with Orondis[®] Gold.

Applied in-furrow, Orondis Gold fungicide goes to work early in the season, protecting your potatoes throughout the year from damaging diseases such as pink rot and Pythium leak. Orondis Gold combines the power of metalaxyl-M (Group 4) with oxathiapiprolin (Group 49) – a new mode of action to suppress pink rot and help manage resistance.



🗘 Orondis Gold

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Orondis Gold and pink rot incidence (%)

Plots were inoculated with an isolate of *P. erythroseptica* sensitive to metalaxyl-M, or the trial was placed in a naturally infested site (mixed population). Trials were conducted in 2016 and 2017 and located in MB, ME, NB, ON, and WA. Performance evaluations are based on field observations and public information. Data from multiple locations should be consulted whenever possible. Individual results may vary depending on local growing, soil, and weather conditions.

The images below, collected during a separate trial, demonstrate the benefit of an application in tubers inoculated with pink rot following harvest.



Metalaxyl-M

Orondis Gold (oxathiapiprolin + metalaxyl-M)

Protection from Pythium leak

Leak or watery wound rot is a tuber storage decay caused by *Pythium* spp. and, in particular, *P. ultimum*. The pathogen enters the tuber via wounds or bruises incurred during harvest or grading. The rot may develop very rapidly in storage, especially if skin set is poor, or if tubers are lifted in wet conditions with soil temperatures above 20°C. The tissues of affected tubers have a watery, spongy texture and are discoloured with a dark margin marking the edge of the decay. Secondary bacterial infections in storage are also common.

An important part of your disease management strategy

Managing pink rot and Pythium leak requires an effective fungicide, such as Orondis Gold, as well as the application of integrated disease management practices. These include crop rotation, good drainage, care during harvesting and grading to avoid tuber damage, and provision of storage conditions that are not conducive to disease spread.



The fungicide you can trust for protection against Rhizoctonia and silver scurf.

Apply Quadris[®] fungicide as an in-furrow treatment for protection against soil-borne diseases caused by Rhizoctonia, as well as silver scurf.



Maximum applications/season: 1 in-furrow



Prevent pink rot from infecting daughter tubers.

When applied as a seed treatment, Revus[®] fungicide provides suppression of pink rot in potatoes by preventing daughter tubers from becoming infected. Revus can be used as part of an integrated approach to target fields where you have had pink rot issues in previous seasons, on your more susceptible varieties, and in tandem with other in-furrow, foliar and post-harvest fungicides.



Active ingredient:

• Mandipropamid (Group 40 fungicide)



PCP number:

• 29074



For control or suppression of:

- For preventative control of seed-borne late blight (*Phytophthora infestans*)
- For suppression of pink rot caused by the pathogen *Phytophthora erythroseptica*



Packaging:

• Each case contains 4 x 3.78 L jugs



Use information:

Rate:

- Seed treatment: 13-26 mL/100 kg seed (3.25-6.5 g ai/100 kg seed)
- Foliar: 400-600 mL/ha (162-243 mL/ac)
- One jug applied at 20 mL/100 kg seed will treat 420 cwt

PHI:

- Seed treatment: N/A
- Foliar: 14 days

Maximum applications/season: 1 seed treatment

If following a seed treatment application of Revus fungicide with foliar applications of this product, apply a fungicide belonging to a group other than Group 40 as the first foliar application of the season.

Do not apply more than 600 g mandipropamid/ha/year.

At time of print, Maximum Residue Limits (MRLs) for the active ingredient mandipropamid as a seed treatment had been established for markets in Canada, the United States and Japan.



Help mitigate financial loss in storage.

Incorporate Ridomil Gold[®] 480 SL fungicide into your pink rot management strategy. Apply in-furrow or consider tank-mixing with Bravo[®] ZN fungicide as a foliar application for increased activity on late blight, and protection against early blight and Botrytis vine rot. Growers should follow through with a post-harvest application of a registered product targeted at pink rot and tuber blight going into storage.



Active ingredients:

MetalaxyI-M (Group 4 fungicide) and S-isomer

PCP number:

• 28474

WALES symbol:

• L

For suppression of:

In-furrow:

• Pink rot (Phytophthora erythroseptica)*

Foliar (in a tank-mix with Bravo ZN):

- Pink rot (*Phytophthora erythroseptica*)^{*}
 Late blight (*Phytophthora infestans*)^{*}
- Early blight (Alternaria solani)
- Botrytis vine rot (Botrytis cinerea)
- Pythium leak (Pythium spp.)

When applying to foliage, make a first application at tuber initiation (the beginning of flowering and/or stolon hooking) and then a second application 14 days later.



Packaging:

• Each case contains 4 x 3.78 L jugs

Use information:

Rate:

- In-furrow: 4 mL/100 m row (178 mL/ac with 36" row spacing)
- Foliar: Apply Ridomil Gold 480 SL at 208 mL/ha (80 mL/ac) and Bravo ZN at 2 L/ha (0.8 L/ac)
- One jug of Ridomil Gold 480 SL treats 22.5 acres as an in-furrow application or 45 acres as a foliar application

PHI: In-furrow: N/A REI: 12 hours Foliar: 14 days

Maximum applications/season: In-furrow: 1 or Foliar: 3

^{*} There is known Ridomil Gold 480 SL resistance to certain strains of late blight and pink rot. Ridomil Gold 480 SL should always be tank-mixed with another product that controls late blight when targeting that disease.





A strong start for a stronger finish.

Vibrance[®] Ultra Potato fungicide gives growers peace of mind. The easy-to-use formulation combines three modes of action and comes with a built-in colourant so growers can evaluate coverage.



Active ingredients:

- Difenoconazole (Group 3)
- Sedaxane (Group 7)
- Mandipropamid (Group 40)



PCP number:

• 33171

For control of:

- Seed-borne silver scurf (Helminthosporium solani)
- Fusarium dry rot (Fusarium spp.)
- Seed-borne black scurf, stem and stolon canker (Rhizoctonia solani)
- Preventative control of late blight (Phytophthora infestans)
- Pink rot (Phytophthora erythroseptica)*

- Packaging:
- One case contains 4 x 4.8 L (fungicide) + 4 x 0.375 L (colourant) jugs

Use information:

Rate:

- 32 mL/100 kg seed
- One jug of Vibrance Ultra Potato will treat 330.6 cwt
- To determine your use rate per acre, multiply 14.5 mL by your seeding rate (in cwt)
- For control of Colorado potato beetle, aphids and potato leafhopper, Vibrance Ultra Potato can be tank-mixed with Actara® 240SC insecticide
- For control of Colorado potato beetle, Vibrance Ultra Potato can be tank-mixed with Fortenza[®] insecticide

PHI: N/A

Maximum applications/season:

Do not apply more than 600 g of mandipropamid per hectare per year

*Suppression only

The use of Vibrance Ultra Potato as a seed treatment may reduce the number of possible foliar applications of Revus and Orondis Ultra fungicides.

At time of print, Maximum Residue Limits (MRLs) for the active ingredient mandipropamid as a seed treatment had been established for markets in Canada, the United States and Japan. **VIBRANCE® ULTRA POTATO**

A strong start for a stronger finish.

Early season protection to preserve crop potential. Vibrance[®] Ultra Potato fungicide seed treatment helps give your crop the best possible start by providing broad-spectrum protection against key seed- and soil-borne diseases, including seed-borne late blight and suppression of pink rot. With three modes of action in a convenient, all-in-one liquid formulation, the decision is easy—start strong, finish strong. Choose Vibrance Ultra Potato.



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A strong start for a stronger finish.

Vibrance[®] Ultra Potato fungicide-only seed treatment provides effective disease protection to help ensure strong stand establishment so your crop gets off to the best possible start. It protects potatoes from all key seed-borne diseases and prevents break-down in storage. This all-in-one liquid seed treatment also comes with a colourant so growers can visually evaluate coverage of their seed pieces.

How does Vibrance Ultra Potato work?

During the cutting and treating phase, Vibrance Ultra Potato helps prevent the spread of seed-borne late blight from infected seed to healthy seed. After planting, it provides protection from diseases such as seed-borne silver scurf, Fusarium dry rot and seed-borne black scurf, stem and stolon canker (Rhizoctonia), as well as



suppression of pink rot. At the end of the season, growers can rest easy, knowing they're reducing the chances of storage breakdown.

Seed pieces infected with seed-borne late blight

20



A mandipropamid seed piece treatment produced better emergence in seed infected with late blight at planting. Source: Syngenta Research, 2015 Plattsville, Ontario. N=4

Protect yield and quality from Rhizoctonia and Fusarium

Rhizoctonia lesions pinch off sprouts before emergence, resulting in severe crop damage and ultimately producing pinched off secondary sprouts. These secondary sprouts are less vigourous and emerge much later, producing irregular and uneven plant stands.

Vibrance Ultra Potato protects roots in the critical first weeks after planting, boosting stand establishment and protecting the roots and stolons from being pinched off.

Performance against Rhizoctonia solani

N=1 Source: Canadian Seedcare Institute in Plattsville, Ontario, 2019.

Performance evaluations are based on internal trials, field observations and/or public information. Data from multiple locations and years should be consulted whenever possible. Individual results may vary depending on local growing, soil and weather conditions. Always read and follow label directions.

FOLIAR FUNGICIDES

Foliar fungicides

Don't let white mould chip away at yield.

To protect your potato plants against white mould infection, make the first application of Allegro[®] fungicide at first bloom (10%). Make a second application two weeks later if rain and humidity remain high. Allegro also inhibits the formation and movement of late blight spores, effectively preventing the spread of foliar and tuber late blight.

Active ingredient:

• Fluazinam (Group 29 fungicide)

• 27517

Adjuvant: • None required Rainfast:2 hours

WALES symbol:

For control of:

- Late blight (*Phytophthora infestans*)
- White mould (Sclerotinia sclerotiorum)

Packaging:

• Each case contains 2 x 10 L jugs

Use information:

Rate:

- 400-600 mL/ha (162-243 mL/ac)
- One jug of Allegro applied at 162 mL/ac treats 60 acres

PHI: 14 days

REI: 24 hours

Maximum sequential applications: 3

Maximum applications/season: 10

Two modes of action to protect against early blight and brown spot.

Active ingredients:

- Solatenol[®] (Group 7 fungicide)
- Difenoconazole (Group 3 fungicide)
- РСР

PCP number: • 31526

- Adjuvant:
- None required

Rainfast:

 Do not apply when heavy rain is forecast

WALES symbol:

• F

For control of:

- Early blight (Alternaria solani)
- Brown spot (Alternaria alternata)*

Packaging:

• Each case contains 4 x 3.78 L jugs

Use information:

Rate:

- Apply 643–967 mL/ha (260–391 mL/ac)
- One jug of Aprovia® Top applied at 391 mL/ac will treat 10 acres

PHI: 14 days

REI: 12 hours

Maximum applications/season: Four applications by ground or two applications by air. All applications must be made by the same method.

If an in-furrow application of Elatus was made, do not make more than one application of Aprovia Top fungicide in subsequent foliar applications.

Application interval: 7-14 days

Consecutive applications: Make no more than two consecutive applications before switching to a non-Group 7 and a non-Group 3 fungicide. If disease pressure is high, use the highest rate and shortest interval.

*Suppression only

WeatherStik technology sticks and stays.

Bravo[®] ZN fungicide with WeatherStik[®] technology sticks and stays. The patented WeatherStik technology from Syngenta maximizes the ability of Bravo ZN to stick to plant surfaces, even during heavy rainfall or irrigation. Bravo ZN can be applied in combination or rotation with other Syngenta fungicides targeting late blight and early blight.

Active ingredient:

- Chlorothalonil (Group M-5 fungicide)
- 28900
- Adjuvant: • None required

Rainfast:

30 minutes

WALES symbol:

For control of:

- Early blight (*Alternaria solani*)
- Late blight (*Phytophthora infestans*)
- Botrytis vine rot (*Botrytis cinerea*)

Packaging:

• 450 L tote

Use information:

Rate:

- For late blight: 1.2–2.4 L/ha (0.5–1.0 L/ac)
- For early blight and Botrytis vine rot: 1.6–2.4 L/ha (0.65–1.0 L/ac)
- The most common use rates for Bravo ZN in potatoes are 0.8–1.0 L/ac
- Begin applications when plants are 15–20 cm high, or when disease threatens
- Repeat applications as necessary to maintain disease control on a 7-10 day interval
- Under severe disease conditions, use the higher rates at seven-day intervals

Use changes:

- All mixing and loading must be done with closed transfer systems
- Applicators treating potato fields must use groundboom equipment with an enclosed cab
- A Vegetative Filter Strip (VFS) with a width of at least 10 metres must be constructed and maintained

For more information regarding changes to chlorothalonil use, go to: Syngenta.ca/chlorothalonil

The ultimate in late blight protection.

Orondis[®] Ultra fungicide provides unbeatable protection against late blight so you can plan your late blight program with the confidence that your crop is protected.

Active ingredients:

- Oxathiapiprolin (Group 49 fungicide)
- Mandipropamid (Group 40 fungicide)

- PCP number:
- Adjuvant:
- Rainfast:
- 1 hour

• 32805

•

None required

For control of:

WALES symbol:

• Late blight (Phytophthora infestans)

Packaging:

• Each case contains 4 x 3.78 L jugs

Use information:

Rate:

• 400–600 mL/ha (162–243 mL/ac). At the mid-rate, Orondis Ultra treats 75 acres per case.

Application timing:

Orondis Ultra must be applied preventatively:

- Apply in-season when conditions are conducive to disease development
- Apply late season to provide protection prior to harvest

Resistance management guidelines:

- Make a maximum of one application of Orondis Ultra for every three applications targeting late blight (i.e. two alternative modes of action or fungicide groups other than Groups 40 and 49)
- Do not apply back-to-back sprays of Orondis Ultra or follow Orondis Ultra with an application of Revus or any other Group 40 fungicide
- Do not apply curatively if infection is present in the field, use alternate solutions
- Avoid application when heavy rain is forecast

PHI: 14 days

Maximum applications/season: 4

The use of Vibrance Ultra Potato or Revus as a seed treatment may reduce the number of possible foliar applications of Orondis Ultra. If Orondis Gold is applied in-furrow, foliar applications 27 of Orondis Ultra will not be permitted.

Protect your potato crop from black dot, and help prevent early blight.

Quadris Top[®] fungicide combines two powerful active ingredients and provides highly effective protection against target diseases, including black dot, early blight and brown spot. And, because of translaminar and xylem-systemic movement, Quadris Top protects better than a contact fungicide.

Maximum applications/season: 3

*Suppression only.

Reliable, long-lasting late blight control.

With its powerful LOK+FLO[®] technology, Revus[®] fungicide delivers long-lasting protection against late blight in plants for up to 10 days, even during periods of expanding leaf growth.

Active ingredient:

• Mandipropamid (Group 40 fungicide)

PCP number: • 29074

Adjuvant:

• A non-ionic adjuvant, such as Agral® 90 (0.25% v/v), is recommended

WALES symbol:

For control of:

• Late blight (Phytophthora infestans)

Apply in an integrated late blight management program. Revus fungicide applications should begin prior to disease development and continue throughout the season on a 7-10 day schedule of fungicides, following the resistance management guidelines. Revus will spread within the leaves it has been applied to as they grow, providing extended protection.

Packaging:

• Each case contains 4 x 3.78 L jugs

Use information:

Rate:

- 400-600 mL/ha (162-243 mL/ac)
- One jug of Revus applied at 190 mL/ac will treat 20 acres

PHI: 14 days

REI: 12 hours

Maximum applications/season: Maximum four applications of products containing mandipropamid, including Revus and Orondis Ultra, per season.

The use of Vibrance Ultra Potato or Revus as a seed treatment will reduce the number of foliar applications of Revus or Orondis Ultra.

Foliar insecticides

Effective, targeted aphid control in potatoes.

Fulfill[®] 50WG insecticide effectively controls aphids by stopping their feeding quickly after application. Although aphids can remain alive for a few days and may continue to move on the plant, Fulfill shuts down the aphids' feeding processes and stops the damage they inflict almost immediately.

Active ingredient:

• Pymetrozine (Group 9-B insecticide)

Adjuvant:

- Rainfast:
- Once dry
- such as Agral[®] 90 (0.25% v/v), Ag-Surf[®] (0.25% v/v), LI 700[®] (0.5% v/v) or Xiameter[®] OFX-0309 Fluid (0.25% v/v) is recommended.

• Under drought conditions, a non-ionic adjuvant,

WALES symbol:W

- For
 - For control of:Aphids (buckthorn, foxglove, green peach, potato)
- Packaging:
- Each case contains 6 x 780 g jugs

Use information:

Rate:

- Broadcast as a foliar spray at a rate of 193 g/ha (78 g/ac)
- One jug of Fulfill 50WG will treat 10 acres

PHI: 14 days

REI: 12 hours

Maximum applications/season: 2

Matador[®] 120EC

Broad-spectrum insect control, including European corn borer.

Matador® 120EC insecticide works on contact. Count on Matador 120EC for fast-acting activity on many insects at various life stages, including small larvae, nymphs and adults.

Active ingredient:

Lambda-cyhalothrin (Group 3 insecticide)

PCP number:

- Adjuvant:
- Rainfast:

- 24984
- None required
- 15 to 30 minutes or once dry

WALES symbol: • F

- For control of:
- Colorado potato beetle^{*}
- European corn borer
- Potato flea beetle
- Potato leafhopper
- Tarnished plant bug
- Tuber flea beetle

Packaging:

• Each case contains 4 x 3.78 L jugs

Use information:

Rate:

- 83–125 mL/ha (34–50 mL/ac)
- One jug of Matador 120EC applied at 34 mL/ac will treat 111 acres

PHI: 7 days

REI: 24 hours

Maximum applications/season: 3

*Susceptibility to pyrethroid insecticides should be confirmed using an appropriate assay.


Delivers exceptional control of hard-to-manage potato pests.

Minecto[®] Pro is a broad-spectrum, foliar-applied insecticide. It provides excellent control of the most important potato pests, including Colorado potato beetle. Minecto Pro harnesses the power of two complementary active ingredients with translaminar modes of action in one convenient pre-mix formulation.



PCP

Active ingredients:

- Abamectin (Group 6)
- Cyantraniliprole (Group 28)

PCP number: • 33023

Adjuvant:

 $\bullet 0.1 - 0.5\%$ v/v non-ionic surfactant

Rainfast:

• 1 hour or once dry



WALES symbol:

L (suspension concentrate)

For control of:

- Colorado potato beetle
- European corn borer
- Flea beetle

- Potato psyllids
- Spider mites

Packaging:

• 4 x 3.78 L jugs



Use information:

Rate:

- 370–670 mL/ha (149–271 mL/ac)
- One jug of Minecto Pro applied at 271 mL/ac will treat 13.95 acres

PHI: 14 days

REI: 12 hours

Maximum applications/season: Make up to two consecutive applications. After two consecutive applications, switch to a non-Group 6 and non-Group 28 insecticide.

Do not make a foliar application of Minecto Pro for at least 60 days after an in-furrow or soil application or planting of seed pieces treated with any Group 28 insecticide unless otherwise directed. Maximum application is 1.340 L/ha per season.

Minecto[®] Pro

Delivers exceptional control of hard-to-manage potato pests.

Minecto[®] Pro offers exceptional control of the toughest pests in potatoes

- Delivers rapid, broad-spectrum foliar activity through two complementary modes of action (cyantraniliprole and abamectin) to achieve complete coverage via translaminar movement
- Controls the most problematic sucking and chewing potato pests
- Provides robust rates of each active ingredient in an easy-to-use pre-mix formulation
- An excellent alternative to foliar neonicotinoid insecticides
- A smart choice to follow neonicotinoid insecticides applied to seed or in-furrow due to different modes of action



Psyllids

Psyllid photo courtesy of Whitney Cranshaw, Colorado State University, Bugwood.org. Flea beetle photo courtesy of Eugenia Banks.

Powerful residual control

Minecto Pro provides a reservoir of active ingredients to deliver extended residual control of key pests and help keep crops healthier, longer.



Untreated



Syngenta research conducted in Plattsville, Ontario, 2018. Plots were under high Colorado potato beetle pressure.

Performance evaluations are based on field observations and Syngenta field data over a limited geography and time. Data from multiple years should be consulted whenever possible. Individual results may vary depending on local growing, soil and weather conditions.

Herbicides and desiccants A flexible tank-mix partner, Boundary[®] LQD herbicide provides long-lasting grass control, and also controls nightshade, allowing the crop to grow with less competition and fewer alternate hosts for diseases in the field.



Active ingredients:

- S-Metolachlor (Group 15 herbicide)
- Metribuzin (Group 5 herbicide)



Adjuvant:

• None required

Rainfast: • N/A

W

WALES symbol:



For control of:

Grass weeds:

- Barnyard grass
- Crabgrass (smooth, hairy)
- Witch grass
- Fall panicum
- Foxtail (green, yellow, giant)

Broadleaf weeds:

- American nightshade
- Redroot pigweed¹
- Eastern black nightshade
- Yellow nutsedge²

- D P
 - Packaging:
 - Each case contains 2 x 10 L jugs
 - 450 L tote

Use information:

Rate:

- 1.85-2.5 L/ha (0.75-1.0 L/ac)
- 1 L of Boundary LQD will treat one acre at the high rate

Application timing: Apply Boundary LQD soon after hilling. Disturbing the soil after applying Boundary LQD may compromise activity, as treated soil will be moved and allow for weeds to grow in untreated soil.

PHI: 60 days REI: 12 hours Maximum applications/season: 1

¹ Some naturally occurring triazine-tolerant biotypes of this weed may not be controlled by Boundary LQD.

² Pre-plant incorporated treatment only. Extended periods of dry, hot weather following application may result in reduced nutsedge control.

Potato varieties may vary in their response to Boundary LQD. Do not apply to Belleisle, Tobique or Superior.



Residual performance and flexibility.

Dual II Magnum[®] herbicide provides long-lasting residual weed control you can count on for a broad spectrum of annual grasses.



Active ingredient:

- S-Metolachlor (Group 15 herbicide)
- РСР

PCP number: • 25729

Adjuvant:

Rainfast: • Once dry

None required



WALES symbol: • E

●E

For control of:

- Barnyard grass
- Crabgrass (smooth, hairy)
- Fall panicum
- Foxtail (giant, green, yellow)
- Nightshade (American, Eastern black)1
- Old witchgrass
- Redroot pigweed²
- Yellow nutsedge³



Packaging:

- 2 x 10 L jugs
- 450 L tote
- Bulk

0

Use information:

Rate:

- 1.25-1.75 L/ha (0.5-0.7 L/ac)
- 1 L of Dual II Magnum will treat 1.4 acres at the high rate

PHI: N/A REI: 12 hours

Maximum applications/season: 1

Consult the label of the product to be tank-mixed with Dual II Magnum for specific instructions regarding broadleaf weeds, soil type variations, rotational crops, grazing or other restrictions.

¹ Pre-emergent treatments usually provide better control than pre-plant surface, pre-plant incorporated or post-emergent treatments.

² Suppression only.

³ Pre-plant incorporated treatment only. Extended periods of hot, dry weather following application may result in reduced nutsedge control.



Take early action against broadleaf weeds.

Applied after planting but before potato emergence, Reflex[®] herbicide provides fast knockdown of emerged broadleaf weeds. It also provides some residual activity to help keep fields clean through canopy closure.



Active ingredient:

Fomesafen (Group 14 herbicide)

PCP number:

Adjuvant:

 If weeds are emerged at time of application, include a non-ionic adjuvant, such as Agral 90, at 0.1% v/v.

• 4 hours

For control of:

- Redroot pigweed
- Common ragweed
- Lamb's-quarters*

Packaging:

• 2 x 10 L jugs

Use information:

Rate:

- 1 L/ha (0.4 L/ac)
- One jug of Reflex will treat 25 acres

PHI: 70 days

REI: 12 hours

Maximum applications/season: 1

*Suppression only.



Genuine Reglone is hard at work.

With Regione® desiccant, potato tubers mature naturally, developing a thicker and more scuff-resistant skin. In addition, Regione allows for easier harvest because desiccated plants pass more easily through harvesting equipment.



Active ingredient:

• Diquat (Group 22 herbicide)



PCP number: • 26396

Rainfast:

• 15 minutes or when dry



WALES symbol:

• S



For control of:

• Green plant material - Reglone will desiccate any green plant material, whether it is a crop or annual or perennial weed



Packaging:

- Each case contains 2 x 10 L jugs
- 450 | tote



Use information:

Rate:

- 1.25-3.5 L/ha (0.5-1.4 L/ac)
- One jug of Regione will treat 20 acres at the low rate

PHI: 24 hours

REI: 24 hours



Post-emergent control of grasses.

Venture® L herbicide is the right choice for control of emerged grasses in your potatoes. Venture L controls all annual grasses plus quackgrass and wirestem muhly.

Rainfast:

• 2 hours



At time of print, Maximum Residue Limits (MRLs) for Venture L herbicide had been established for Canada and the United States.

Post-harvest fungicides



Help maintain tuber quality in storage.



Active ingredient:

• Thiabendazole (Group 1 fungicide)



PCP number:

• 13975

Adjuvant: • None required



• N/A

S

For control of:

- Black scurf (*Rhizoctonia* spp.)
- Fusarium dry rot (Fusarium spp.)*
- Gangrene (Phoma spp.)
- Silver scurf (Helminthosporium spp.)*
- Skin spot (Oospora spp.)

Packaging:

• Each case contains 4 x 5 L jugs



Use information:

Rate:

- Application volume: Apply 2000 mL of mixed slurry to 1,000 kg of potatoes (91 mL/cwt)
- A limit of 500,000 kg of potato tubers may be treated per day per worker

PHI: N/A

Maximum applications/season: 1

* Some strains of *Fusarium* spp. and *Helminthosporium* spp. are resistant to thiabendazole, the active ingredient in Mertect.



Quality in. Quality out.

Help keep your crop picture perfect coming out of storage. Just one application of Stadium[®] post-harvest fungicide on potatoes going into storage helps protect them from the spread of two quality-robbing diseases: Fusarium and silver scurf.



Active ingredients:

- Azoxystrobin (Group 11 fungicide)
- Difenoconazole (Group 3 fungicide)
- Fludioxonil (Group 12 fungicide)



PCP number: • 31050

Adjuvant:

• None required

Rainfast:

• N/A



For control of:

- Fusarium (Fusarium spp.)*
- Silver scurf (Helminthosporium solani)**



Packaging:

• 2 x 10 L jugs



Use information:

Rate:

- 32.5 mL/metric tonne
- One case treats approximately 13,500 cwt
- Do not apply to potatoes grown for seed

PHI: N/A

Maximum applications/season: 1

* Applications of Stadium more than two days after harvest will not be effective at controlling Fusarium.

** Suppression only.

Maximum Residue Limits (MRLs) for Stadium fungicide have been established for markets in Canada, the United States, and Mexico, as well as Codex. Should you need additional information on export market MRLs, please consult with Syngenta to receive the most up-to-date information.



Record keeping

RECORD KEEPING



Field data

Field number	Field name
Field size	Field location
Variety	
Planting date	
Harvest date	
Fertilizer at planting	

Foliar fertilizer applications

Products	Date applied	Rate applied	Wind speed & direction	Notes

Crop protection applications

Date applied	Products	Rate applied

Wind speed & direction	Notes

Notes

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Field size	Field location
Variety	
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Harvest date	
Fertilizer at planting	

Foliar fertilizer applications

Products	Date applied	Rate applied	Wind speed & direction	Notes

Crop protection applications

Date applied	Products	Rate applied

Wind speed & direction	Notes

Notes

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Wind speed & direction	Notes

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Variety			
Planting date			
Harvest date			
Fertilizer at planting			

Foliar fertilizer applications

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Date applied	Products	Rate applied

Wind speed & direction	Notes

Field number	Field name		
Field size	Field location		
Variety			
Planting date			
Harvest date			
Fertilizer at planting			

Foliar fertilizer applications

Products	Date applied	Rate applied	Wind speed & direction	Notes
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Date applied	Products	Rate applied		
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Wind speed & direction	Notes

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Field number	Field name
Field size	Field location
Variety	
Planting date	
Harvest date	
Fertilizer at planting	

Foliar fertilizer applications

Products	Date applied	Rate applied	Wind speed & direction	Notes
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Date applied	Products	Rate applied

Wind speed & direction	Notes

Field number	Field name
Field size	Field location
Variety	
Planting date	
Harvest date	
Fertilizer at planting	

Foliar fertilizer applications

Products	Date applied	Rate applied	Wind speed & direction	Notes
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		1 1 1 1 1 1 1 1 1 1		

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Foliar fertilizer applications

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		1 1 1 1 1 1 1 1 1 1		

Date applied	Products	Rate applied

Wind speed & direction	Notes

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Always read and follow label directions. Elatus is a foliar application of Elatus A and Elatus B fungicides. Orondis® Ultra is a foliar application of Orondis Ultra A and Orondis Ultra B fungicides. Actara®, Agral®, Aprovia®, Boundary®, Bravo®, Cruiser Maxx®, Dual II Magnum®, Elatus®, Fortenza®, Fulfill®, LOK+FLO®, Matador®, Maxim®, Mertect®, Minecto®, Orondis®, Quadris®, Quadris®, Top®, Reflex®, Reglone®, Revus®, Ridomil Gold®, Seedcare™, Solatenol®, Stadium®, Venture®, Vibrance®, WeatherStik®, the Alliance Frame, the Purpose Icon and the Syngenta logo are trademarks of a Syngenta Group Company. Allegro® is a trademark of ISK Biosciences Corporation. All other trademarks are property of their respective owners. © 2020 Syngenta.

