CoNNEXT

Freedom to trade. Freedom to Market

Tisztelt Partnereink!

A következő oldalakon a Corteva Agriscience által zöldség, gyümölcs kultúrákban használható, Magyarországon forgalmazott rovarölő és gombaölő szereinek maradékértékeiről találnak információt. Jelenleg a kiadvány fejlesztése folyamatban van, rövidesen magyar nyelven is hozzáférhetőek lesznek a szükséges információk.
A témához kapcsolódó kérdés esetén keressék területileg illetékes Corteva szakembert!

CORTEVA™ agriscience

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Laser™ Duplo on Ca a e

Information for Growers in Europe

Laser™Duplo (Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. Laser™Duplo is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites.
Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and Import Tolerances are established for the active ingredient, spinosad, in many export markets.

Country	MRL (mg/kg) for Cabbage from globalmrl.com (14 January 2018)	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions.*
USA	2	3
Canada	2	3
EU	2	3
Japan	2	3
Korea	2	3
Codex	2	3

* It is important to always follow label directions, including minimum Pre Harvest Interval (PHI) days.

Maximum Residue Levels and Import Tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the official label and are set signifcantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including residue studies conducted in fields.

To offer more details on the residue profile, based on results from 4 field trials conducted in Europe:

- Following 3 applications, 8-11 days apart at 95.8-101.4 g as/ha as the final application rate at growth stage BBCH 47-49, the average residues 3 days after the last application were less than 30% of the EU MRL.

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Precautions

- Growers should note that suitable Maximum Residue Levels (MRLs) or Import Tolerances may not be established in all markets for produce treated with Spinosad
- If you are growing produce for export, please confirm the latest information on MRLs, Import Tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada: pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- European Union: ec.europa.eu/food/plant/pesticides/max_residue_levels_en
- Global: globalmrl.com

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Laser™ Duplo on Cauliflower

Information for Growers in Europe

Laser™Duplo (Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. Laser™Duplo is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites.
Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and Import Tolerances are established for the active ingredient, spinosad, in many export markets.

Country	MRL (mg/kg) for Cauliflower from globalmrl.com (14 January May 2019)	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions.*
USA	2	3
Canada	2	3
EU	2	3
Japan	2	3
Korea	2	3
Codex	2	3

* It is important to always follow label directions, including minimum Pre Harvest Iinterval (PHI) days.

Maximum Residue Levels and Import Tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the official label and are set signifcantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including residue studies conducted in fields.

To offer more details on the residue profile, based on the results of 12 field trials conducted in Europe:

- Following 1-6 applications, 7-12 days apart, at 94.4-104.5 g as/ha as the final application rate at growth stage BBCH 12-49, the average residues 3 days after the last application were less than 30% of the EU MRL

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Precautions

- Growers should note that suitable Maximum Residue Levels (MRLs) or Import Tolerances may not be established in all markets for produce treated with Spinosad.
- If you are growing produce for export, please confirm the latest information on MRLs, Import Tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada: pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- European Union: ec.europa.eu/food/plant/pesticides/max_residue_levels_en
- Global: globalmrl.com

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Laser™ Duplo on Curra s

Information for Growers in Europe

Laser™Duplo (Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. Laser™Duplo is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites.
Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and Import Tolerances are established for the active ingredient, spinosad, in many export markets.

Country	MRL (mg/kg) for currant from globalmrl.com (14 January 2019)	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions.*
USA	0.4	5
Canada	0.5	5
EU	1.5	3
Japan	1	3

* It is important to always follow label directions, including minimum Pre Harvest Interval (PHI) days.

Maximum Residue Levels and Import Tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the official label and are set signifcantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including residue studies conducted in fields.

To offer more details on the residue profile, based on results from 6 field trials conducted in Europe:

- Following 2 applications, 7 days apart, at 95-103 g as/ha as the final application rate at growth stage BBCH 85-87, the average residues 3 days after the last application were less than 50% of the EU MRL.

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Precautions

- Growers should note that suitable Maximum Residue Levels (MRLs) or Import Tolerances may not be established in all markets for produce treated with Spinosad
- If you are growing produce for export, please confirm the latest information on MRLs, Import Tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada: pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- European Union: ec.europa.eu/food/plant/pesticides/max_residue_levels_en
- Global: globalmrl.com

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Laser™ Duplo on o

Information for Growers in Europe

Laser™Duplo (Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. Laser Duplo is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites.

Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and Import Tolerances are established for the active ingredient, spinosad, in many export markets.

Country	MRL (mg/kg) for onion from globalmrl.com (14 January 2019)	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions.*
USA	0.1	7
Canada	0.1	7
EU	0.07	7
Japan	0.1	7
Korea	0.01	14
Codex	0.1	7

* It is important to always follow label directions, including minimum Pre Harvest Interval (PHI) days.

Maximum Residue Levels and Import Tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the official label and are set signifcantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including residue studies conducted in fields.

To offer more details on the residue profile, we present the results of 15 field trials conducted in Europe:

- Following 4 applications, 7-10 days apart, at 82-97 g as/ha as the final application rate at growth stage BBCH 45-49, the residues were below 0.01 mg/kg 14 days after the last application.

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Precautions

- Growers should note that suitable Maximum Residue Levels (MRLs) or Import Tolerances may not be established in all markets for produce treated with Spinosad
- If you are growing produce for export, please confirm the latest information on MRLs, Import Tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada: pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- European Union: ec.europa.eu/food/plant/pesticides/max_residue_levels_en
- Global: globalmrl.com

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Laser™ Duplo on asp err

Information for Growers in Europe

Laser™Duplo (Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. Laser Duplo is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites.

Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and Import Tolerances are established for the active ingredient, spinosad, in many export markets.

Country	MRL (mg/kg) for raspberry from globalmrl.com (14 January 2019)	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions.*
USA	1	3
Canada	0.5	3
EU	1.5	3
Japan	1	3
Korea	0.5	3
Codex	1	3

* It is important to always follow label directions, including minimum Pre Harvest Interval (PHI) days.

Maximum Residue Levels and Import Tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the official label and are set signifcantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including residue studies conducted in fields.

To offer more details on the residue profile, based on results from 4 field trials conducted in Europe:

- Following 2 applications, 7 days apart, at 95-112 g as/ha as the final application rate at growth stage BBCH 77-87, the average residues 3 days after the last application were less than 30% of the EU MRL.

CoNNEXT

Freedom to trade. Freedom to Market

Laser™ Duplo

Wine grape

Information for Growers in Europe

Laser™ Duplo (480 g/L Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa*), which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. Laser™ is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites.
Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, spinosad, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for spinosad in wine grape and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.5	14
Switzerland	0.5	14
USA	0.5	14
Canada	0.4	14
Japan	0.5	14
Korea	0.5	14
Codex[4]	0.5	14

[1] Information from bryantchristie.com for **wine grape – 9th JSeptember 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as Spinosad (spinosad, sum of spinosyn A and spinosyn D)

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 13 field trials conducted in Europe, following 5 application with 47 - 84 g as/ha at growth stage BBCH 80-87 (ripening of berries - softening of berries), the residues 14 days after the last application were below 30% of EU MRL.

In addition residue data have been collected from Growers and Marketing trials and analyzed with the Internal CoNNEXT Probability Tool. Results are presented in Table 2

Table 2. Results of Internal CoNNEXT Probability Tool.

Internal CoNNEXT Probability Tool Assessment utilizing Marketing and Grower Data		
Residue Data:	84 data from 2012-2019 (wine grape) from Italy and France	
Info on applications:	1-2 applications at 40 – 80 g ai/ha	
Request	**Probability level (%) to meet Request**	**Days after last application**
0.01 mg/kg	96	40

Based on 6 trials on processed wine grape, spinosad residues in wine are expected to be below 0.01 mg/kg (LoQ)

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Laser™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Laser ™ Duplo

Tomato

Information for Growers in Europe

Laser™ Duplo (spinosad) is an insecticide derived through a fermentation process naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. **Laser™ Duplo** is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites. Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, spinosad, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for spinosad in tomato and estimated days between final application and earliest harvest to be below MRL

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.7	3
Switzerland	1	3
USA	0.4	3
Canada	0.4	3
Japan	1	3
Korea	1	3
Codex[4]	0.3	3

[1] Information from bryantchristie.com for **tomato – 19th June 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as Spinosad (spinosad, sum of spinosyn A and spinosyn D)

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 24 trials conducted in Europe, following 2 - 3 applications at 6 - 10 days intervals and 96 - 150 g as/ha as the final application at growth stage BBCH 73 - 89 (3rd fruit cluster; 1st fruit has reached typical size – fully ripe), the residues 3 days after the last application were below 30% EU MRL.

CoNNEXT

Freedom to trade. Freedom to Market

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Spintor.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA™ agriscience

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Laser™ Duplo on Apple: Information for Growers in Europe

Laser™ Duplo (480 g/L Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa*), which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. Laser™ Duplo is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites. Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and Import Tolerances are established for the active ingredient, spinosad, in many export markets.

Country	MRL (mg/kg) for apple from globalmrl.com (18th March 2020)	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions.*
EU	0.3	7
USA	0.2	7
Canada	0.2	7
Japan	0.5	7
Korea	0.05	14
Codex	0.1	10

* It is important to always follow label directions, including minimum Pre Harvest Interval (PHI) days.

Maximum Residue Levels and Import Tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the official label and are set signifcantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including residue studies conducted in fields.

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

To offer more details on the residue profile:

- From the results of 23 EU field trials, following 4 applications with 190 - 345 g ai/ha at growth stage BBCH 79-89 (fruit about 70% of final size - fruit ripe for consuption), the residues 7 days after the last application were below the EU MRL.

In addition residue data have been collected from Growers and Marketing trials in Italy and France from 2008 to 2019. Based on these extensive residue data (189 results) and applying an internal model the probability of finding residues lower than:

- 30% of the EU MRL is 100 % following 1 or 2 applications and 10 days after the last application
- 0.01 mg/kg is 90% following:
  - ✓ 1 application and 20 days after the last application
  - ✓ 2 application and 33 days after the last application

Precautions

- Growers should note that suitable Maximum Residue Levels (MRLs) or Import Tolerances may not be established in all markets for produce treated with Success 4™.
- If you are growing produce for export, please confirm the latest information on MRLs, Import Tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada: pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX : www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- European Union: ec.europa.eu/food/plant/pesticides/max_residue_levels_en
- Global: www.bryantchristie.com

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Laser™ Duplo on Pear: Information for Growers in Europe

Laser™ Duplo (480 g/L Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. LaserTM Duplo is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites. Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and Import Tolerances are established for the active ingredient, spinosad, in many export markets.

Country	MRL (mg/kg) for pear from globalmrl.com (18th March 2020)	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions.*
EU	0.3	7
USA	0.2	7
Canada	0.2	7
Japan	0.5	7
Korea	0.01	40
Codex	--	--

* It is important to always follow label directions, including minimum Pre Harvest Interval (PHI) days.

Maximum Residue Levels and Import Tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the official label and are set signifcantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including residue studies conducted in fields.

Food Chain CoNNEXT

Freedom to Trade. Freedom to Market.

Residue data have been collected from Growers and Marketing trials in Italy and France from 2008 to 2019. Based on these extensive residue data (278 results) and applying an internal model the probability of finding residues lower than:

- EU MRL is 100% 7 days after last application
- 30% of the EU MRL is 97 % 20 days after last application
- 0.01 mg/kg is 90% 40 days after last application:

Precautions

- Growers should note that suitable Maximum Residue Levels (MRLs) or Import Tolerances may not be established in all markets for produce treated with Success 4™.
- If you are growing produce for export, please confirm the latest information on MRLs, Import Tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada: pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX : www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- European Union: ec.europa.eu/food/plant/pesticides/max_residue_levels_en
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Laser™ Duplo

Strawberry

Information for Growers in Europe

Laser™ Duplo (spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa),* which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. **LaserTM Duplo** is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites. Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, spinosad, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for spinosad in strawberry and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.3	3
Switzerland	0.5	3
USA	0.9	3
Canada	0.7	3
Japan	1	3
Korea	1	3

[1] Information from bryantchristie.com for **spinosad– 23th October 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as Spinosad (spinosad, sum of spinosyn A and spinosyn D)

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days .

In addition residue data on strawberries have been utilized to calibrate a predictive model to estimate residue behaviour in strawberries. Results are reported in Table 2.

Table 2. Results of R-Cast Predictive Model

R-Cast Predictive Model Assessment from Regulatory Data[1]		
Crop Detail Requested:	OUTDOOR STRAWBERRIES	
Residue Data[2]	29 strawberry trials (10 outdoor, 19 protected) from Europe	
Desired Residue Level (mg/kg):	<0.3 (EU MRL)	
Time estimated to reach desired residue (days) following last application	# of Applications	Use rate (g ai / ha)
3	2	96
3	1	96
Desired Residue Level (mg/kg):	< 0.01	
Time estimated to reach desired residue (days) following last application	# of Applications	Use rate (g ai / ha)
12	2	96
12	1	96

R-Cast Predictive Model Assessment from Regulatory Data[1]		
Crop Detail Requested:	PROTECTED STRAWBERRIES	
Residue Data[2]	29 strawberry trials (10 outdoor, 19 protected) from Europe	
Desired Residue Level (mg/kg):	<0.3 (EU MRL)	
Time estimated to reach desired residue (days) following last application	# of Applications	Use rate (g ai / ha)
3	2	96
3	1	96
Desired Residue Level (mg/kg):	< 0.01	
Time estimated to reach desired residue (days) following last application	# of Applications	Use rate (g ai / ha)
25	1	96

[1] Please be aware that this information should only be used as an indication of residue behavior and that residue analysis will be required to confirm residues on any treated crop

[2] If applications are made prior to fruit formation, this estimation tool is incapable of predicting the resulting residues on the fruit.

CoNNEXT

Freedom to trade. Freedom to Market

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Success 4.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

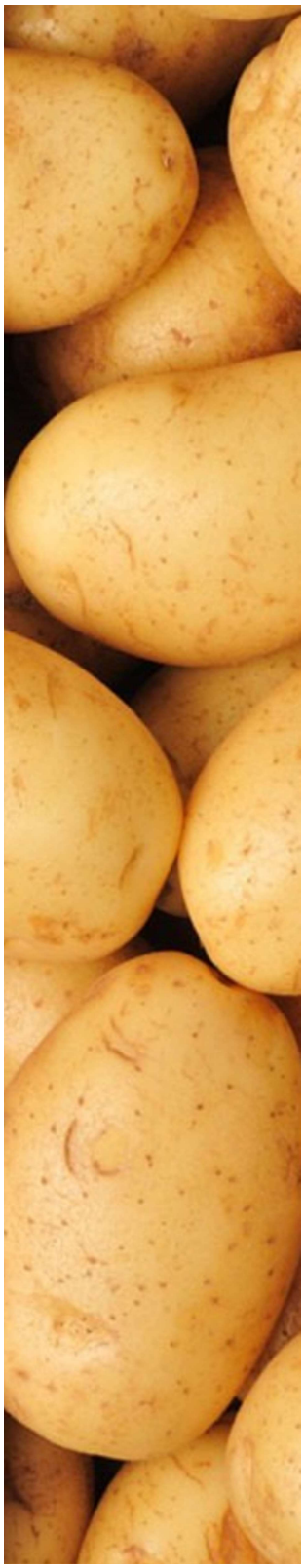
- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA agriscience

CoNNEXT

Freedom to trade. Freedom to Market



Laser™ Duplo

Potato

Information for Growers in Europe

LaserTM Duplo (Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa)*, which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. **LaserTM Duplo** is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites. Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, spinosad, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for spinosad in potato and estimated days between final application and earliest harvest to be below MRL

Country	MRL (mg/kg) [1,2]	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions[4]
EU	0.02	14
Switzerland	0.02	14
Russia	0.5	14
Japan	0.02	14
Korea	0.1	14
Codex[4]	0.01	14

[1] Information from bryantchristie.com for **potato – 26th May 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as Spinosad (spinosad, sum of spinosyn A and spinosyn D)

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 23 field trials conducted in Europe, United States and Australia following 3- 4 applications at 4-9 day intervals and 35 - 123 g as/ha as the final application rate at growth stage BBCH 46-91 (60% of total final tuber mass reached – beginning of leaf yellowing), the residues 14 days after the last application were below 0.01 mg/kg.

CoNNEXT

Freedom to trade. Freedom to Market

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Tracer Ultra.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market

Laser™ Duplo

Broccoli

Information for Growers in Europe

LaserTM Duplo (Spinosad) is an insecticide derived through a fermentation process naturally occurring bacterium (*Saccharopolyspora spinosa),* which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. **LaserTM Duplo** is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites. Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, spinosad, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for spinosad in broccoli and estimated days between final application and earliest harvest to be below MRL

Country	MRL (mg/kg) [1,2]	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions[4]
EU	2	3
Switzerland	2	3
Russia	2	3
United States	2	3
Canada	2	3
Japan	2	3
Korea	2	3
Codex[4]	2	3

[1] Information from bryantchristie.com for **broccoli – 11th May 2021**

[2] Residue definition: EU Residue definition for monitoring purposes is given as Spinosad (spinosad, sum of spinosyn A and spinosyn D)

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 10 field trials conducted in Europe following 3- 4 applications at 7-10 day intervals and 94.7-104.7 g as/ha as the final application rate at growth stage BBCH 43-59 (30% of the expected head diameter reached – first flower petals visible), the average residues 3 days after the last application were below the 50% of EU MRL.

CoNNEXT

Freedom to trade. Freedom to Market

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Success 4.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

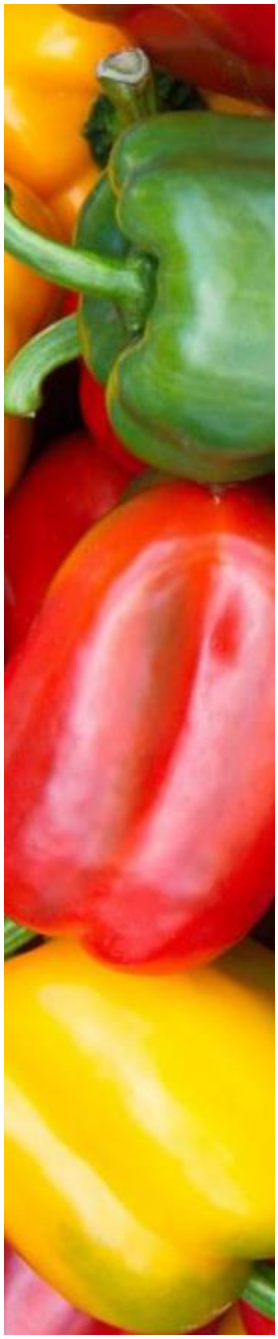
- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/pesticides/en/
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market



Laser™ Duplo

Pepper

Information for Growers in Europe

Laser™ Duplo (Spinosad) is an insecticide derived through a fermentation process from a naturally occurring bacterium (*Saccharopolyspora spinosa*), which controls a variety of insect pests from diverse insect taxa (Lepidopterans, Coleopterans, Thrips, Hemipterans and Dipterans) in a variety of environments and crops. **LaserTM Duplo** is effective at low use rates, with fast knockdown and residual control, and fits in IPM programs meaning minimal impact on beneficial insects and predatory mites. Spinosad is approved for use in EU organic food production.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, spinosad, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for spinosad in pepper and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.6	3
Switzerland	2	3
Russia	2	3
USA	0.4	3
Canada	0.4	3
Japan	2	3
Korea	0.5	3
Codex[4]	0.3	3

[1] Information from bryantchristie.com for **pepper – 28th February 2023**

[2] Residue definition: EU Residue definition for monitoring purposes is given **as total spinosad (Spinosyn A + Spinosyn D)**.

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 20 field trials conducted in Europe, following 3 applications at 7 -8 days intervals and 110-130 g as/ha as the final application rate at growth stage BBCH 72-89 (2nd fruit cluster: 1st fruit has reached typical size – Fully ripe. Fruit have typical ripe color), the residues 3 days after the last application were below EU MRL and lower 30% EU MRL 14 days after the last application.

CoNNEXT

Freedom to trade. Freedom to Market

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Spintor™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market

Closer™

Aubergine

Information for Growers in Europe

Closer™ (Isoclast™Active (sulfoxaflor)) is an innovative new insecticide highly effective on economically important and difficult-to-control sap-feeding pests including those resistant to other classes of insecticides. Isoclast™Active can support farmers in the control of aphids, plant bugs, leafhoppers, planthoppers, mealybugs, scale insects and whiteflies affecting pome and stone fruit, citrus and many vegetables. Isoclast™Active is effective at low use rates, presents an excellent knockdown and long-lasting control, and fits in IPM programs for minimal impact on beneficial insects and predatory mites.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, sulfoxaflor, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for sulfoxaflor in aubergine and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[4]
EU	0.3	1
Switzerland	0.3	1
USA	0.7	1
Canada	0.7	1
Japan	2	1
Korea	0.2	1
Codex[4]	1.5	1

[1] Information from bryantchristie.com for **aubergine– 31st August 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **sulfoxaflor**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days and no open field in-flowering applications.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 60 field trials conducted in Europe on tomato, following 1 application at 21.5-56 g as/ha at growth stage BBCH 69-89 (end of flowering – fully ripe: fruits have typical color), the residues 1 day after the application were below 30% of EU MRL.

In addition residue data on tomatoes has been utilized to calibrate a predictive model to estimate residue behaviour in aubergines. Results are reported in Table 2.

Table 2. Results of R-Cast Predictive Model

R-Cast Predictive Model Assessment from Regulatory Data[1]		
Crop Detail Requested:	Aubergine	
Residue Data[2]	103 Tomato trials from Europe, United States, Argentina and Australia	
Desired Residue Level (mg/kg):	<0.01	
Time estimated to reach desired residue (days) following last application	**# of Applications**	**Use rate (g ai / ha)**
34	1	24
39	2 (7 days apart)	24
42	1	48

[1] Please be aware that this information should only be used as an indication of residue behavior and that residue analysis will be required to confirm residues on any treated crop

[2] If applications are made prior to fruit formation, this estimation tool is incapable of predicting the resulting residues on the fruit.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Closer™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market

Closer™

Cucumber

Information for Growers in Europe

Closer™ (Isoclast™Active (sulfoxaflor)) is an innovative new insecticide highly effective on economically important and difficult-to-control sap-feeding pests including those resistant to other classes of insecticides. Isoclast™Active can support farmers in the control of aphids, plant bugs, leafhoppers, planthoppers, mealybugs, scale insects and whiteflies affecting pome and stone fruit, citrus and many vegetables. Isoclast™Active is effective at low use rates, presents an excellent knockdown and long-lasting control, and fits in IPM programs for minimal impact on beneficial insects and predatory mites.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, sulfoxaflor, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for sulfoxaflor in cucumber and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.5	1
Switzerland	0.07	1
USA	0.4	1
Canada	0.4	1
Japan	0.7	1
Korea	0.5	1
Codex[4]	0.5	1

[1] Information from bryantchristie.com for **cucumber– 31st August 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **sulfoxaflor**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days and no open field in-flowering applications.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 35 field trials conducted in Europe, following 1 application at 21.2-55.9 g as/ha at growth stage BBCH 65-89 (5th flower open on main steam – fully ripe: fruits have typical ripe color), the residues 1 day after the application were below 30% of EU MRL.

In addition residue data on cucumbers has been utilized to calibrate a predictive model to estimate residue behaviour in cucumbers. Results are reported in Table 2.

Table 2. Results of R-Cast Predictive Model

R-Cast Predictive Model Assessment from Regulatory Data[1]		
Crop Detail Requested:	Cucumbers	
Residue Data[2]	41 cucumber trials from Europe and Australia	
Desired Residue Level (mg/kg):	<0.01	
Time estimated to reach desired residue (days) following last application	**# of Applications**	**Use rate (g ai / ha)**
5	1	24
10	2 (7 days apart)	24
14	1	48

[1] Please be aware that this information should only be used as an indication of residue behavior and that residue analysis will be required to confirm residues on any treated crop

[2] If applications are made prior to fruit formation, this estimation tool is incapable of predicting the resulting residues on the fruit.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Closer™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Closer™

Melon

Information for Growers in Europe

Closer™ (Isoclast™Active (sulfoxaflor)) is an innovative new insecticide highly effective on economically important and difficult-to-control sap-feeding pests including those resistant to other classes of insecticides. Isoclast™Active can support farmers in the control of aphids, plant bugs, leafhoppers, planthoppers, mealybugs, scale insects and whiteflies affecting pome and stone fruit, citrus and many vegetables. Isoclast™Active is effective at low use rates, presents an excellent knockdown and long-lasting control, and fits in IPM programs for minimal impact on beneficial insects and predatory mites.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, sulfoxaflor, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for sulfoxaflor in melon and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.5	1
Switzerland	0.01	3
USA	0.4	1
Canada	0.4	1
Japan	0.01	3
Korea	0.4	1
Codex[4]	0.5	1

[1] Information from bryantchristie.com for **melon– 8th June 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **sulfoxaflor**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days and no open field in-flowering applications.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 8 field trials conducted in Europe, following 1 application at 46.7-50.1 g as/ha at growth stage BBCH 82-87 (20% of fruits show typical full-ripe color - 70% of fruits show typical full-ripe color), the residues 1 day after the application were below 30% of EU MRL, and lower than 0.01 mg/kg 3 days after the application.

CoNNEXT

Freedom to trade. Freedom to Market

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Closer™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market

Closer™

Pepper

Information for Growers in Europe

Closer™ (Isoclast™Active (sulfoxaflor)) is an innovative new insecticide highly effective on economically important and difficult-to-control sap-feeding pests including those resistant to other classes of insecticides. Isoclast™Active can support farmers in the control of aphids, plant bugs, leafhoppers, planthoppers, mealybugs, scale insects and whiteflies affecting pome and stone fruit, citrus and many vegetables. Isoclast™Active is effective at low use rates, presents an excellent knockdown and long-lasting control, and fits in IPM programs for minimal impact on beneficial insects and predatory mites.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, sulfoxaflor, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for sulfoxaflor in pepper and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.4	1
Switzerland	0.07	10
USA	0.7	1
Canada	0.7	1
Japan	2	1
Korea	0.5	1
Codex[4]	1.5	1

[1] Information from bryantchristie.com for **pepper – 31st August 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **sulfoxaflor**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days and no open field in-flowering applications.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 33 field trials conducted in Europe, following 1 application at 22.6 -54 g as/ha at growth stage BBCH 72-89 (2nd fruit has reached typical size and form), the residues 1 day after the application were below 50% of EU MRL, 7 days after application were below of 30% EU MRL.

CoNNEXT

Freedom to trade. Freedom to Market

In addition residue data on peppers has been utilized to calibrate a predictive model to estimate residue behaviour in peppers. Results are reported in Table 2.

Table 2. Results of R-Cast Predictive Model

R-Cast Predictive Model Assessment from Regulatory Data[1]		
Crop Detail Requested:	Peppers	
Residue Data[2]	47 pepper trials from Europe, United States and Australia	
Desired Residue Level (mg/kg):	<0.01	
Time estimated to reach desired residue (days) following last application	**# of Applications**	**Use rate (g ai / ha)**
58	1	24
65	1	48

[1] Please be aware that this information should only be used as an indication of residue behavior and that residue analysis will be required to confirm residues on any treated crop

[2] If applications are made prior to fruit formation, this estimation tool is incapable of predicting the resulting residues on the fruit.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Closer™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market

Closer™

Watermelon

Information for Growers in Europe

Closer™ (Isoclast™Active (sulfoxaflor)) is an innovative new insecticide highly effective on economically important and difficult-to-control sap-feeding pests including those resistant to other classes of insecticides. Isoclast™Active can support farmers in the control of aphids, plant bugs, leafhoppers, planthoppers, mealybugs, scale insects and whiteflies affecting pome and stone fruit, citrus and many vegetables. Isoclast™Active is effective at low use rates, presents an excellent knockdown and long-lasting control, and fits in IPM programs for minimal impact on beneficial insects and predatory mites.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, sulfoxaflor, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for sulfoxaflor in watermelon and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.5	1
Switzerland	0.01	3
USA	0.4	1
Canada	0.4	1
Japan	0.01	3
Korea	0.3	1
Codex[4]	0.5	1

[1] Information from bryantchristie.com for **watermelon– 8th June 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **sulfoxaflor**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days and no open field in-flowering applications.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 8 field trials conducted in Europe on melon (watermelon can be extrapolated from melon), following 1 application at 46.7-50.1 g as/ha at growth stage BBCH 82-87 (20% of fruits show typical full-ripe color - 70% of fruits show typical full-ripe color), the residues 1 day after the application were below 30% of EU MRL, and lower than 0.01 mg/kg 3 days after the application.

CoNNEXT

Freedom to trade. Freedom to Market

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Closer™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

Please connect with us at my.corteva.com/CoNNEXT

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market

Closer™

Zucchini

Information for Growers in Europe

Closer™ (Isoclast™Active (sulfoxaflor)) is an innovative new insecticide highly effective on economically important and difficult-to-control sap-feeding pests including those resistant to other classes of insecticides. Isoclast™Active can support farmers in the control of aphids, plant bugs, leafhoppers, planthoppers, mealybugs, scale insects and whiteflies affecting pome and stone fruit, citrus and many vegetables. Isoclast™Active is effective at low use rates, presents an excellent knockdown and long-lasting control, and fits in IPM programs for minimal impact on beneficial insects and predatory mites.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, sulfoxaflor, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for sulfoxaflor in zucchini and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.5	1
Switzerland	0.5	1
USA	0.4	1
Canada	0.4	1
Japan	0.5	1
Korea	0.01	1
Codex[4]	0.5	1

[1] Information from bryantchristie.com for **zucchini– 09 November 2020**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **sulfoxaflor**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days and no open field in-flowering applications.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 35 field trials conducted in Europe on **cucumber (extractable to zucchini)** , following 1 application at 21.2- 55.9 g as/ha at growth stage BBCH 65-89 (5th flower open on main steam – fully ripe: fruits have typical ripe color), the residues 1 day after the application were below 30% of EU MRL.

In addition residue data on cucumbers has been utilized to calibrate a predictive model to estimate residue behaviour in zucchini. Results are reported in Table 2.

Table 2. Results of R-Cast Predictive Model

R-Cast Predictive Model Assessment from Regulatory Data[1]		
Crop Detail Requested:	Zucchini	
Residue Data[2]	41 cucumbers trials from Europe and Australia	
Desired Residue Level (mg/kg):	<0.01	
Time estimated to reach desired residue (days) following last application	# of Applications	Use rate (g ai / ha)
5	1	24
10	2 (7 days apart)	24
14	1	48

[1] Please be aware that this information should only be used as an indication of residue behavior and that residue analysis will be required to confirm residues on any treated crop

[2] If applications are made prior to fruit formation, this estimation tool is incapable of predicting the resulting residues on the fruit.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Closer™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Closer™ 120 SC

Tomato

Information for Growers in Europe

Closer™ 120 SC (Isoclast™Active (sulfoxaflor)) is an innovative new insecticide highly effective on economically important and difficult-to-control sap-feeding pests including those resistant to other classes of insecticides. Isoclast™Active can support farmers in the control of aphids, plant bugs, leafhoppers, planthoppers, mealybugs, scale insects and whiteflies affecting pome and stone fruit, citrus and many vegetables. Isoclast™Active is effective at low use rates, presents an excellent knockdown and long-lasting control, and fits in IPM programs for minimal impact on beneficial insects and predatory mites.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, sulfoxaflor, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for sulfoxaflor in tomato and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
Europe	0.3	1
United states	0.7	1
Canada	0.7	1
Japan	2	1
Korea	0.5	1
Switzerland	0.3	1
Codex[4]	1.5	1

[1] Information from bryantchristie.com for **tomato – 31st August 2020**

[2] EU Residue definition for monitoring purposes is given as **sulfoxaflor**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days and no open field in-flowering applications.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 60 trials conducted in Europe, following 1 application with 21.5-56 g ai/ha at growth stage BBCH 69-89 (end of flowering – fully ripe: fruits have typical color), the residues 1 day after the application were below 30% of EU MRL.

In addition residue data on tomatoes has been utilized to calibrate a predictive model to estimate residue behaviour in tomatoes. Results are reported in Table 2.

Table 2. Results of R-Cast Predictive Model

R-Cast Predictive Model Assessment from Regulatory Data[1]		
Crop Detail Requested:	Tomato	
Residue Data[2]	103 Tomato trials from Europe, United States, Argentina and Australia	
Desired Residue Level (mg/kg):	<0.01	
Time estimated to reach desired residue (days) following last application	**# of Applications**	**Use rate (g ai / ha)**
34	1	24
39	2 (7 days apart)	24
42	1	48

[1] Please be aware that this information should only be used as an indication of residue behavior and that residue analysis will be required to confirm residues on any treated crop

[2] If applications are made prior to fruit formation, this estimation tool is incapable of predicting the resulting residues on the fruit.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Closer™ 120 SC.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Talendo®

Wine grape

Information for Growers in Europe

Talendo® (proquinazid) provides protection against powdery mildew on grape. It is characterized by a fast-acting and long-lasting protection and it is best used as a protectant treatment. Talendo is effectively redistributed during the vapor phase, guaranteeing maximum protection of the fruits.
It has the power and flexibility you need to improve your chances of producing high-quality and high yielding grape.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, proquinazid, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for proquinazid in wine grape and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.5	28
Switzerland	0.5	28
Russia	0.5	28
USA	0.5	28
Canada	0.5	28
Japan	0.01	--
Korea	0.01	--
Codex	--	--

[1] Information from bryantchristie.com for **Table grape – 19th October 2021**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **proquinazid**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

To offer more details on the residue profile:

- From 34 field trials conducted North and South Europe, following 3-6 applications at 7-14 days intervals and 71-86 g as/ha as the final application rate at growth stage BBCH 79-85 (Berry touch completed - Softening of berries), the residues 28 days after the last application were lower than the EU MRL (0.5 mg/kg).

In order to achieve residue lower than 0.01 mg/kg products need to be applied before fruit setting (BBCH 69).

The Processing Factors from the trial, reported in the Table 2, can be used to calculate the residue expected in processed grape commodities.

Table 2. Processing factors for proquinazid in wine grape

Processed Product	Number of studies	Processing factors
Wine (Red and White)	4	0.2
Raisins	4	2.6

For example: considering a level of residue of 0.25 mg/kg in fresh wine grape, the estimated residue in wine will be 0.25 mg/kg x 0.2 (Proccessing factor) = 0.05 mg/kg.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Talendo®.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/pesticides/en/
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Great Britain: GB MRL Register (pesticides.gov.uk)
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Talendo®

Table grape

Information for Growers in Europe

Talendo® (proquinazid) provides protection against powdery mildew on grape. It is characterized by a fast-acting and long-lasting protection and it is best used as a protectant treatment. Talendo is effectively redistributed during the vapor phase, guaranteeing maximum protection of the fruits.
It has the power and flexibility you need to improve your chances of producing high-quality and high yielding grape.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, proquinazid, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for proquinazid in table grape and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.5	28
Switzerland	0.5	28
Russia	0.5	28
USA	0.5	28
Canada	0.5	28
Japan	0.01	--
Korea	0.01	--
Codex	--	--

[1] Information from bryantchristie.com for **Table grape – 19th October 2021**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **proquinazid**

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

To offer more details on the residue profile:

- From 34 field trials conducted North and South Europe, following 3-6 applications at 7-14 days intervals and 71-86 g as/ha as the final application rate at growth stage BBCH 79-85 (Berry touch completed - Softening of berries), the residues 28 days after the last application were lower than the EU MRL (0.5 mg/kg).

In order to achieve residue lower than 0.01 mg/kg products need to be applied before fruit setting (BBCH 69).

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Talendo®.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/pesticides/en/
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Great Britain: GB MRL Register (pesticides.gov.uk)
- Global: www.bryantchristie.com

CORTEVA™ agriscience

CoNNEXT

Freedom to trade. Freedom to Market

Karathane™ Star

Wine grape

Information for Growers in Europe

Karathane™ Star is a fungicide which contains the active substance meptyldinocap, a contact fungicide providing protectant, curative and eradicant control of powdery mildews in several crops. Its unique mode of action amongst powdery mildew fungicides with negligible risk of resistance development makes Karathane™ Star an excellent tool in anti-powdery mildew (*Erysiphe cichoracearum*) programs to prevent the emergence of resistance. The use rate is low in comparison to other contact products such as sulfur. The use of Karathane™ Star does not impact the organoleptic properties of harvests or processing processes. Karathane™ Star is safe to beneficial mites and can be used within Integrated Pest Management (IPM) guidelines.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, meptyldinocap, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for meptyldinocap in wine grape and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.2	21
Switzerland	0.2	21
USA	0.2	21
Canada	0.2	21
Japan	0.01	--
China	0.2	21
Russia	--	--
Codex[4]	0.2	21

[1] Information from bryantchristie.com for **wine grape– 14th May 2021**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **meptyldinocap** (sum of meptyldinocap (2,4-DNOPC) and its phenol metabolite (2,4-DNOP) expressed as meptyldinocap)

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 17 field trials conducted in Europe, following 4 applications with 201-223 g as/ha at growth stage BBCH 83-85 (berries brightining in color – softening of berries),the residues 21 days after the last application were below the EU MRL and

28 days after the last application where lower than 30% of the EU MRL.

Based on available processing studies, when meptyldinocap is applied to vines according to according to label recommendation, residues in wine are expected to be below the lowest limit of analytical determination as defined in EU Regulation N° 396/2005.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Karathane™ Star.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/pesticides/en/
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Please connect with us at my.corteva.com/CoNNEXT

CoNNEXT

Freedom to trade. Freedom to Market

Karathane™ Star

Table grape

Information for Growers in Europe

Karathane™ Star is a fungicide which contains the active substance meptyldinocap, a contact fungicide providing protectant, curative and eradicant control of powdery mildews in several crops. Its unique mode of action amongst powdery mildew fungicides with negligible risk of resistance development makes Karathane™ Star an excellent tool in anti-powdery mildew (*Erysiphe cichoracearum*) programs to prevent the emergence of resistance. The use rate is low in comparison to other contact products such as sulfur. The use of Karathane™ Star does not impact the organoleptic properties of harvests or processing processes. Karathane™ Star is safe to beneficial mites and can be used within Integrated Pest Management (IPM) guidelines.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, meptyldinocap, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for meptyldinocap in table grape and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
EU	0.2	21
Switzerland	0.2	21
USA	0.2	21
Canada	0.2	21
Japan	0.01	see table 2
China	0.2	21
Russia	--	--
Codex[4]	0.2	21

[1] Information from bryantchristie.com for **table grape– 14th May 2022**

[2] Residue definition: EU Residue definition for monitoring purposes is given as **meptyldinocap** (sum of meptyldinocap (2,4-DNOPC) and its phenol metabolite (2,4-DNOP) expressed as meptyldinocap)

[3] It is important to always follow label directions, including minimum Pre-Harvest Interval (PHI) days.

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 17 field trials conducted in Europe, following 4 applications with 201-223 g as/ha at growth stage BBCH 83-85 (berries brightining in color – softening of berries),the residues 21 days after the last application were below the EU MRL and 28 days after the last application where lower than 30% of the EU MRL.

In addition residue data have been collected from Growers and Marketing trials and analyzed with the Internal CoNNEXT Probability Tool. Results are presented in Table 2

Table 2. Results of Internal CoNNEXT Probability Tool.

Internal CoNNEXT Probability Tool Assessment utilizing Marketing and Grower Data				
Residue Data:	84 data from 2007-2020 (table grape) from Italy			
Info on applications:	1-4 applications at 100 - 400 g as/ha			
Request	**Probability level (%) to meet Request**	**Number of application**	**Rate of application (gas/ha)**	**Days after last application**
0.01 mg/kg	94	1	140	80
0.01 mg/kg	90	2	140	80
0.01 mg/kg	88	1	200	80

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Karathane™ Star.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/pesticides/en/
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Please connect with us at my.corteva.com/CoNNEXT

CoNNEXT

Freedom to trade. Freedom to Market

Zorvec™ Vinabel

Processed Grape

Information for Growers in Europe

Zorvec™ Vinabel (40 g oxathiapiprolin/L and 300 g zoxamide/L) fungicide provides an unmatched combination of consistency and control to help growers to achieve a better crop, even under the most challenging environmental conditions. Zorvec™ technology, intended for use on tomatoes, grapes, potatoes, vegetables and other specialty crops, helps growers to realize greater yield potential, better quality, and improved productivity for a more successful crop.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredient, oxathiapiprolin and zoxamide, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for **oxathiapiprolin** and **zoxamide** in grape and estimated days between final application and earliest harvest to be below MRL

Country	MRL (mg/kg) [1,2] Oxathiapiprolin	MRL (mg/kg) [1,2] Zoxamide	**Estimated time (days)** between final application and earliest harvest to be below MRL and meet label directions[3]
Europe	0.7	5	28
Switzerland	0.7	5	28
Great Britain	0.7	5	28
United States	0.7	5	28
Canada	0.9	3	28
Japan	0.9	5	28
Korea	1	3	28
Russia	0.9	5	28
Codex[4]	0.9	5	28

[1] Information from bryantchristie.com for **grape – 28th February 2024**

[2] Residue definition: EU Residue definition for monitoring purposes is given as oxathiapiprolin and zoxamide

[3] It is important to always follow label directions, including Pre Harvest Interval (PHI)

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From the results of 18 field trials conducted in Europe, following 2 applications with 10-14 days of interval and 30-64 g oxathiapiprolin/ha as the final application rate at growth stage BBCH 83-89 (berries brighting in color – berries ripe for harvest) the residues of **oxathiapiprolin** 28 days after the last application were less than 30% of the EU MRL.

- From the results of 20 field trials conducted in Southern Europe, following 2 applications, with 10-15 days of interval and 20 g oxathiapiprolin/ha as the final application rate at flowering (growth stage BBCH 60-69), residues of **oxathiapiprolin** were below 0.01 mg/kg 82 days after the last application.

The Processing Factors, reported in the Table 2, can be used to calculate the residue expected in processed grape commodities.

Table 2. Processing factors for **Oxathiapiprolin** in wine grape

Processed Product	Processing factors
Wine (bottled)	0.14
Juice	0.16
Must	0.62
Raisins	1.45

For example for oxathiapiprolin: considering a level of residue of 0.21 mg/kg in grape, the estimated residue in wine will be 0.21 mg/kg x 0.14 (Processing factor) = 0.031 mg/kg..

*For information on **Zoxamide** residue profile contact your local Gowan representative (you can find the country contact in Gowan site:* Gowan | Welcome to Gowan Company

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Zorvec™ Vinabel.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: www.codexalimentarius.net/mrls/pestdes/jsp/pest_q-e.jsp
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Global: www.bryantchristie.com

CoNNEXT

Freedom to trade. Freedom to Market

Zorvec Entecta™

Potato

Information for Growers in AME

Zorvec Entecta™ (oxathiapiprolin 48 g a.s./L + amisulbrom 240 g a.s./L) fungicide provides an unmatched combination of consistency and control to help growers to achieve a better crop, even under the most challenging environmental conditions. Zorvec™ technology, intended for use on tomatoes, grapes, potatoes, vegetables and other specialty crops, will change the way growers view disease control – helping growers realize greater yield potential, better quality, and improved productivity for a more successful crop.

The Maximum Residue Levels (MRLs) and import tolerances (Table 1.) are established for the active ingredients, oxathiapiprolin and amisulbrom, in many export markets. MRLs and import tolerances are standards set by government authorities. These values serve to indicate that a crop protection product is applied in accordance with the registered label and are set significantly below any toxicological threshold for dietary intake. In setting these standards, government authorities review large data packages, including field residue studies.

Table 1. MRLs and import tolerances for oxathiapiprolin and amisulbrom in potato and estimated days between final application and earliest harvest

Country	MRL (mg/kg) [1,2]		Estimated time (days) between final application and earliest harvest to be below MRL and meet label directions[3]
	Oxathiapiprolin	Amisulbrom	
EU	0.01	0.01	7
Great Britain	0.01	0.01	7
USA	0.04	--	--
Canada	0.04	0.1	7
Japan	0.05	0.05	7
Kora	0.05	0.05	7
Codex[4]	0.04	--	--

[1] Information from bryantchristie.com for potato – **3rd June 2022**

[2] Residue definition: EU Residue definition for monitoring purposes is given as oxathiapiprolin and amisulbrom

[3] It is important to always follow label directions, including Pre Harvest Interval (PHI)

[4] Codex MRLs may be accepted by many countries including Brazil, Colombia, Saudi Arabia and United Arab Emirates

To offer more details on the residue profile:

- From 18 trials conducted in Northern and Southern Europe with **oxathiapiprolin**, (32-54 g a.s./ha applied 3-4 times 10 days apart), no residues were detected (at greater than the limit of detection 0.003 mg/kg) in samples collected 0-21 days after the last application.

Additionally, when processed potato products were analyzed for the presence of oxathiapiprolin, no residues were detected (at greater than the limit of detection 0.003 mg/kg).

- From 16 trials conducted in Northern and Southern Europe with amisulbrom, (100 g a.s./ha applied 6 times 7 days apart), no residues were detected (at greater than the limit of detection 0.0025 mg/kg) in samples collected 7 days after the last application.

Precautions

- Growers should note that suitable MRLs and import tolerances may not be established in all markets for produce treated with Zorvec Entecta™.
- If you are growing produce for export, please confirm the latest information on MRLs, import tolerances, and residue definitions before using this product.
- Residue data are highly variable due to a large variety of agricultural practices and application technology. Growers that export treated crops should consider residue testing prior to shipment.
- Please contact your local sales representative for more information.

For more information

Additional information regarding MRLs is available online at the following sites:

- USA: www.epa.gov/pesticide-tolerances
- Canada:https://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php
- CODEX: http://www.fao.org/fao-who-codexalimentarius/codex-texts/dbs/pestres/pesticides/en/
- EU: https://ec.europa.eu/food/plant/pesticides/eu-pesticides-database/public/?event=homepage&language=EN
- Great Britain: GB MRL Register (pesticides.gov.uk)
- Global: www.bryantchristie.com