FINAL REGISTRATION REPORT

Part B

Section 7

Metabolism and Residues

Detailed summary of the risk assessment

Product code: SHA6100A

Product name(s): ALIVE

Chemical active substance:

Propaquizafop, 100 g/L

Central Zone

Zonal Rapporteur Member State: Poland

CORE ASSESSMENT

Applicant: Sharda Cropchem España S.L.

Submission date: October 2020

Update date: January 2022

MS Finalisation date: 06/2021 03/2022

Version history

When	What
October 2020	Submission
May 2021	Updated by applicant
June 2021	ZRMS evaluated the dRR
January 2022	Updated by applicant
March 2022	Assessment of updated dRR

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7 Metabolism and residue data (KCA section 6)

7.1 Summary and zRMS Conclusion

Storage stability

Storage stability of propaquizafop residues in plant matrices was investigated during the peer review (Italy, 2005).

The 2 year storage period covers the groups of high water content (tomatoes, sugar beet (leaves)), high starch content (sugar beet roots and carrots) and high oil content (rape seed, soya seed). Additional studies are required as to cover the high acid, high protein content (dry legume vegetables/pulses) commodities and animal commodities.

Applicant provided new storage stability study.

Regarding the residues of total quizalofop before and during the storage period, no degradation higher than 30 % of total quizalofop residues was observed in pea whole plant (-11.4%), pea dry seed (-11.4%), oil seed rape grain (-20.5%) and grape (-8.0%) after storage for 12 months at -18°C. Total quizalofop residues are therefore stable in pea whole plant, pea dry seed, oil seed rape grain and grape for at least 12 months at -18°C.

Metabolism in plants and animals

The metabolism of propaquizafop has been investigated during first peer review in cotton, soybean, lettuce and sugar beet, representing three groups of crops; oilseed/pulse crops, leafy crops and root/tuber crops. According to OECD 501 guideline as results of these three metabolism groups studies indicate comparable metabolic route, extrapolation is also applicable to fruits, and no additional study is needed.

The metabolism of propaquizafop in rotational crops was investigated in sugar beet, spinach and wheat.

EFSA Journal 2019;17(7):5747: *Studies investigating the effect of processing on the nature of residues were performed with quizalofop (acid); these studies demonstrated that quizalofop (acid) is stable under conditions representative for pasteurisation, sterilisation and baking/brewing/boiling. Studies with propaquizafop are not available. In the framework of the MRL review, it was decided that the studies with quizalofop (acid) are sufficient to conclude that propaquizafop is not expected to degrade under standard processing conditions (EFSA, 2017).*

Endpoints	
Plant groups covered	Root and tuber vegetables (sugar beets…) Leafy vegetables (lettuce..) Pulses and oilseeds (cotton, soya beans..) Fruits (citrus, olive..)
Rotational crops covered	Root and tuber vegetables (sugar beets) Leafy vegetables (spinach) Cereals (spring wheat)
Metabolism in rotational crops similar to metabolism in primary crops?	Yes
Processed commodities	Not applicable
Residue pattern in processed commodities similar to pattern in raw commodities?	Yes
Plant residue definition for monitoring	Reg. (EU) 2019/973: Quizalofop (sum of quizalofop, its salts, its

	esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers))
Plant residue definition for risk assessment	Propaquizafop Provisional: Sum propaquizafop and quizalofop expressed as quizalofop (sum of isomers) (EFSA, 2008) Sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers) (EFSA, 2017)
Conversion factor from enforcement to RA	Not applicable

Magnitude of residues in plants

Sugar beet

Proposed uses:

1 application, BBCH 12-35, 0.050 – 0.150 kg as/ha, PHI: 28 days

or

2 application (interval 12 days), BBCH 12-35, 0.060 kg as/ha, PHI: 28 days

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014). Residue trials were evaluated at the European Community level too.

Trials GAP: 1x 0.15-0.2 kg as/ha, BBCH 37, PHI 91

GAP supported by available data *Propaquizafop, SANCO/131/08 final, 26 May 2009*:

1x 0.2 kg as/ha, BBCH 12-39, PHI na

PHI evaluated under review of the existing maximum residue levels for quizalofop-P-ethyl, quizalofop-P-tefuryl and propaquizafop according to Article 12 of Regulation (EC) No 396/2005 for sugar beet was 60 days. Therefore, 60 days is proposed.

Available data can cover the proposed use.

The residues arising from the proposed uses will not exceed the MRLs established for sugar beets (0.06 mg/kg, Reg. (EU) 2019/973).

Uses are accepted.

Fodder beet; Beetroot

According to the SANTE/2019/12752 extrapolation from sugar beet to fodder beet and beetroot is possible. The residues arising from the proposed uses will not exceed the MRLs established for beetroot (0.06 mg/kg, Reg. (EU) 2019/973). Uses are accepted. Accepted PHI: 60 days.

Oilseed rape

Proposed uses:

1 application, BBCH 12-35, 0.050 – 0.150 kg as/ha, PHI: 42 days

or

2 application (interval 12 days), BBCH 12-35, 0.060 kg as/ha, PHI: 42 days

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014).

GAP on which EU a.s. assessment is based: 1x 0.2 kg as/ha, BBH 31, PHI 90

GAP evaluated under review of the existing maximum residue levels: 1x 0.20 kg as/ha, BBH 11-31, PHI 90

GAP supported by available data *Propaquizafop, SANCO/131/08 final, 26 May 2009*:

1x 0.2 kg as/ha, BBCH 12-39, PHI na

PHI evaluated under review of the existing maximum residue levels for quizalofop-P-ethyl, quizalofop-P-tefuryl and propaquizafop according to Article 12 of Regulation (EC) No 396/2005 for oilseed rape was 90 days. Therefore, 90 days is proposed.

Available data can cover the proposed use.

The residues arising from the proposed uses will not exceed the MRLs established for oilseed rape (2.0 mg/kg, Reg. (EU) 2019/973).

Uses are accepted.

According to the SANTE/2019/12752 extrapolation from oilseed rape to poppy seed and flax is possible.

The residues arising from the proposed uses will not exceed the MRLs established for linseeds (0.3 mg/kg) and poppy seeds (0.7 mg/kg).

Potatoes

Proposed uses:

1 application, BBCH 10-35, 0.050 – 0.150 kg as/ha, PHI: 40 days

or

2 application (interval 12 days), BBCH 10-35, 0.060 kg as/ha, PHI: 40 days

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014).

Trials GAP: 1 x 0.2 kg a.s./ha, PHI: 49-171d

GAP evaluated under review of the existing maximum residue levels: 1x 0.15 kg as/ha, BBH 11-31, PHI 30

Available data can cover the proposed use.

The residues arising from the proposed uses will not exceed the MRLs established for potatoes (0.1 mg/kg, Reg. (EU) 2019/973).

Uses are accepted.

Onion

Proposed uses:

1 application, BBCH 9-53, 0.050 – 0.150 kg as/ha, PHI: 30 days

or

2 application (interval 12 days), BBCH 9-53, 0.060 kg as/ha, PHI: 30 days

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014).

GAP evaluated under review of the existing maximum residue levels: 1x 0.20 kg as/ha, PHI 30

Available data can cover the proposed use.

The residues arising from the proposed uses will not exceed the MRLs established for onion (0.04 mg/kg, Reg. (EU) 2019/973).

Uses are accepted.

According to the SANTE/2019/12752 extrapolation from onion to garlic and shallot is possible.

The residues arising from the proposed uses will not exceed the MRLs established for garlic and shallot (0.04 mg/kg, Reg. (EU) 2019/973).

Bean

Proposed uses:

1 application, BBCH 13-30, 0.050 – 0.150 kg as/ha, PHI: 45 days

or

2 application (interval 12 days), BBCH 13-30, 0.060 kg as/ha, PHI: 45 days

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014).

Study Schwager L., 1991 (90003816):

This study was performed on been for dry seed (pulses). ~~Storage stability data are required as to verify the validity of the results.~~

The data included in the Registration Report are not sufficient as to perform an evaluation.

Heyer R., 1995a – Analytical report; Beinhauer K., 1994a – Field report:

This study was performed on been for dry seed (pulses). ~~Storage stability data are required as to verify the validity of the results.~~

The data included in the Registration Report are not sufficient as to perform an evaluation.

Uses are not accepted.

Green peas; Peas for dry seeds

Proposed uses:

1 application, BBCH 13-30, 0.050 – 0.150 kg as/ha, PHI: 45 days

or

2 application (interval 12 days), BBCH 13-30, 0.060 kg as/ha, PHI: 45 days

Only two trials are referenced (on fresh peas) in the RR Agil 100 EC.

The data included in the Registration Report are not sufficient as to perform an evaluation the uses on fresh and dry peas.

Uses are not accepted. ~~Additionally storage stability data for High protein content matrices are required~~.

Alfalfa; Yellow alfalfa; Black medic; Red clover; White clover; Crimson clover; Common sainfoin; Vetch; Little white bird's-foot; Lentil; White melilot; Yellow melilot; Grass pea

The data included in the Registration Report (RR Agil 100 EC) are not sufficient as to perform an evaluation the uses on above crops.

Head cabbage

Proposed uses:

1 application, BBCH 13-30, 0.050 – 0.150 kg as/ha, PHI: 28 days

or

2 application (interval 12 days), BBCH 13-30, 0.060 kg as/ha, PHI: 28 days

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014).

GAP on which EU a.s. assessment is based: 1x 0.15 kg as/ha, BBCH 29, PHI 30

Available data can cover the proposed use.

The residues arising from the proposed uses will not exceed the MRLs established for head cabbage (0.6 mg/kg, Reg. (EU) 2019/973).

PHI = 30 days is proposed by zRMS. Use is accepted.

Broccoli; Brussels sprouts

According to the SANTE/2019/12752 extrapolation from head cabbage to broccoli and brussels sprouts is not possible. Uses are not accepted.

Carrot; Parsley

Proposed uses:

1 application, BBCH 12-30, 0.050 – 0.150 kg as/ha, PHI: 28 days

or

2 application (interval 12 days), BBCH 12-30, 0.060 kg as/ha, PHI: 28 days

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014).

GAP on which EU a.s. assessment is based: 1x 0.15 kg as/ha, BBCH 29, PHI 30

Available data can cover the proposed use on carrot.

The residues arising from the proposed uses will not exceed the MRLs established for carrot (0.2 mg/kg, Reg. (EU) 2019/973).

PHI = 30 days is proposed by zRMS. Use on carrot is accepted.

According to the SANTE/2019/12752 extrapolation from carrot to parsley is possible. Use on parsley is accepted (PHI: 30 days).

The residues arising from the proposed uses will not exceed the MRLs established for parsley (0.2 mg/kg, Reg. (EU) 2019/973).

Root celery; Parsnip; Swedes

According to the SANTE/2019/12752 extrapolation from carrot to Whole subgroup (c) other root and tuber vegetables except sugar beets (0213000) is possible.

MRLs for

Carrots: 0.2 mg/kg

Celeriacs/turnip rooted celeries: 0.08 mg/kg

Parsnip: 0.2 mg/kg

Swedes: 0.06 mg/kg

Use on parsnip is accepted. The residues arising from the proposed uses will not exceed the MRLs established for head parsnip (0.2 mg/kg, Reg. (EU) 2019/973).

Use on root celery and swedes are not accepted (when extrapolation is from carrot). The residues arising from the proposed uses may exceed the MRLs established for root celery and swedes (Reg. (EU) 2019/973).

Despite this, extrapolation from sugar beets to celery root and swedes is possible.

MRL for sugar beet is 0.06 mg/kg. Then, the residues arising from the proposed uses will not exceed the MRLs established for root celery and swedes.

Uses are accepted. PHI proposed: 60 days (see sugar beet).

Jerusalem Artichokes; Horseradish; Black radish; Japanese radish (daikon); Radish; Salsify; White turnip; Black turnip

MRLs:

Jerusalem Artichokes: 0.08 mg/kg - not accepted (extrapolation from sugar beet is not possible)

Horseradish: 0.08 mg/kg - accepted extrapolation from sugar beet with PHI: 60 days

Black radish: 0.2 mg/kg - accepted extrapolation from carrots with PHI: 30 days

Japanese radish (daikon): 0.2 mg/kg - accepted extrapolation from carrots with PHI: 30 days

Radish: 0.2 mg/kg - accepted extrapolation from carrots with PHI: 30 days

Salsify: 0.2 mg/kg - accepted extrapolation from carrots with PHI: 30 days

White turnip: 0.08 mg/kg: - accepted extrapolation from sugar beet with PHI: 60 days

Black turnip: 0.08 mg/kg: - accepted extrapolation from sugar beet with PHI: 60 days

Strawberry

Proposed uses:

1 application, BBCH 13-30, 91-92, 0.050 – 0.150 kg as/ha, PHI: na

or

2 application (interval 12 days), BBCH 13-16, 91-92, 0.060 kg as/ha, na

Applicant refers to the unprotected data RR Agil 100 EC (Registration No. R-208/2014).

The data included in the Registration Report (RR Agil 100 EC) are not sufficient as to perform an evaluation the uses on strawberry. Additionally the storage stability data are required as to cover the high acid commodities.

Uses at BBCH 13-30 are not accepted. Use at BBCH 91-92 is accepted.

Magnitude of residues in livestock

Regarding available data, there is no risk for animal MRL to be exceeded.

Processing studies

Further processing studies are not required in this case as they are not expected to affect the outcome of the risk assessment.

Estimation of exposure through diet and other means

Accepted uses of propaquizafop in the formulation SHA 6100A do not represent unacceptable chronic or acute risk for the consumer

Conclusions

Uses not accepted (insufficient data on field trials / possibility of extrapolation):

Bean

Green peas;

Peas for dry seeds

~~Jerusalem Artichokes~~

Broccoli,

Brussels sprouts;

Broad beans;

Faba bean;

Field peas;

White lupine;

Yellow lupine;

Narrow-leaved lupine

Alfalfa;

Yellow alfalfa;

Black medic;

Red clover;

White clover;

Crimson clover;

Common sainfoin;

Vetch;

Little white bird's-foot;

Lentil;

White melilot;

Yellow melilot;

Grass pea

Jerusalem Artichokes

In this case extrapolation from carrots is possible.

MRL for carrots is 0.2 mg/kg.

MRL for Jerusalem Artichokes is 0.08 mg/kg

The residues in Jerusalem Artichokes after application of the Alive will not exceed the MRL set for this crop.

Therefore use is acceptable.

Uses with the changed by evaluator PHI:

Sugar beet, Root celery, Swedes, Fodder beet, Beetroot, Turnips, Horseradish (proposed PHI: 60 days)

Winter oilseed rape, Spring oilseed rape, Opium poppy, Common flax, Linen flax; (proposed PHI: 90 days)

Cabbage, Carrot, Parsley, Parsnip, Black radish, Japanese radish (daikon), Radish, Salsify (proposed PHI: 30 days)

Uses with restricted BBCH:

Uses at BBCH 13-30 are not accepted. Use at BBCH 91-92 is accepted.

7.1.1 Critical GAP(s) and overall conclusion

Selection of critical uses and justification

The critical GAPs with respect to consumer intake and risk assessment for the preparation Propaquizafop 10% EC are presented in Table 7.1-1. They have been selected from the individual GAPs in the zone/EU for crop 1. A list of all intended uses within the central zone is given in Part B, Section 0.

Justification for the selection of the critical GAP

Overall conclusion

The data available are considered sufficient for risk assessment. An exceedance of the current MRL of xxx mg/kg for Propaquizafop as laid down in Reg. (EU) 396/2005 is not expected.
The chronic and the short-term intakes of Propaquizafop residues are unlikely to present a public health concern.
As far as consumer health protection is concerned, authority, zRMS agrees with the authorization of the intended use(s).

According to available data, no specific mitigation measures should apply.

Or

According to available data, the following specific mitigation measures are recommended: ...

Data gaps

Data gaps should be listed in the summary to give an overview (especially for cMS).

Noticed data gaps are:

- Uses not accepted (insufficient data on field trials / possibility of extrapolation):
  Bean, Green peas, Peas for dry seeds, ~~Jerusalem Artichokes~~, Broccoli, Brussels sprouts, Broad beans Faba bean, Field peas, White lupine Yellow lupine Narrow-leaved lupine, Alfalfa, Yellow alfalfa, Black medic, Red clover, White clover, Crimson clover, Common sainfoin, Vetch, Little white bird's-foot, Lentil, White melilot, Yellow melilot, Grass pea
- Strawberry (trials at proposed BBCH)
- ~~Storage stability studies are required as to cover the high acid, high protein content (dry legume vegetables/pulses) commodities and animal commodities.~~

Table 7.1-1: Acceptability of critical GAPs (and respective fall-back GAPs, if applicable)

Use-No. *	**Member state(s)**	**Crop and/ or situation **** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I*****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
PL uses (field or outdoor uses, certain types of protected crops)													
1.	PL	**Sugar beet**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* BBCH 12-35**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	~~28~~ 60	A
2	PL	**Sugar beet**	F	Silky bentgrass *(Apera spica-venti)*; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 12-35***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	~~28~~ 60	A
3	PL	**Sugar beet**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 12-35**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	~~28~~ 60	A
4.	PL	**Winter oilseed rape**	F	Common barnyardgrass *(Echinochloa crus-galli)*;	Broadcast spraying	BBCH 13-29* BBCH 12-30**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	~~42~~ 90	A

Use-No. *	**Member state(s)**	**Crop and/ or situation **** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I*****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
				Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*									

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
5.	PL	**Winter oilseed rape**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 12-30***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	~~42~~ 90	A
6.	PL	**Winter oilseed rape**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 12-30**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	~~42~~ 90	A
7.	PL	**Potato**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* BBCH 10-35**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	40	A
8.	PL	**Potato**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 10-35***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	40	A

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
9.	PL	**Potato**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 10-35**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	40	A
10.	PL	**Onion**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* BBCH 11-12** BBCH 09-53***	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	30	A
11.	PL	**Onion**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 11-12*** BBCH 09-53****	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	30	A
12.	PL	**Onion**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 11-12** BBCH 09-53***	a) 1 b) 1 OR		a) 1.25-1.5 b) 1.25-1.5 OR	a) 0.125-0.150 b) 0.125-0.150 OR	200-300	30	A

Use-No. *	**Member state(s)**	**Crop and/ or situation** ** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I*****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
							a) 1 b) 2	12	a) 0.6 b) 1.2	a) 0.060 b) 0.120			

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
13.	PL	**Bean**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* min. BBCH 13**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	45	N
14.	PL	**Bean**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** min. BBCH 13***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	45	N
15.	PL	**Bean**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* min. BBCH 13**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	45	N
16.	PL	**Green peas; Peas for dry seeds**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena*	Broadcast spraying	BBCH 13-29* min. BBCH 12**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	45	A

Use-No. *	**Member state(s)**	**Crop and/ or situation **** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I*****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
				fatua) ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*									

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
17.	PL	**Green peas; Peas for dry seeds**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** min. BBCH 12***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	45	A
18.	PL	**Green peas; Peas for dry seeds**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* min. BBCH 12**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	45	A
19.	PL	**Cabbage**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* min. BBCH 13**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	Growth stage restricted 30	A
20.	PL	**Cabbage**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** min. BBCH 13***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	~~28~~ 30	A

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
21.	PL	**Cabbage**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* min. BBCH 13**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	~~28~~ 30	A
22.	PL	**Carrot; Parsley**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* min. BBCH 12**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	~~28~~ 30	A
23.	PL	**Carrot; Parsley**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** min. BBCH 12***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	~~28~~ 30	A
24.	PL	**Carrot; Parsley**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* min. BBCH 12**	a) 1 b) 1 OR		a) 1.25-1.5 b) 1.25-1.5 OR	a) 0.125-0.150 b) 0.125-0.150 OR	200-300	~~28~~ 30	A

Use-No. *	**Member state(s)**	**Crop and/ or situation ** (crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I*****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
							a) 1 b) 2	12	a) 0.6 b) 1.2	a) 0.060 b) 0.120			

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
25.	PL	**Strawberry**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	~~BBCH 13-29*~~ BBCH 91-92**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	N.A.	A Use only at BBCH 91-92
26.	PL	**Strawberry**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	~~BBCH 13-21*~~ ~~BBCH 25-30**~~ BBCH 91-92***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	N.A.	A Use only at BBCH 91-92
27.	PL	**Strawberry**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	~~BBCH 13-16*~~ BBCH 91-92**	~~a)~~ 1 ~~b)~~ 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	N.A>	A Use only at BBCH 91-92
28.	CEU	**OSR**	F	Annual and perennial grass weeds	Spray	Post emergence BBCH 12-39	a) 1 b) 1	NA	a) 1.2 b) 1.2	a) 0.12 b) 0.12	200-400	90	A
Minor uses according to Article 51 (zonal uses)													

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
29.	PL	**Spring oilseed rape**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* BBCH 12-30**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	90	A
30.	PL	**Spring oilseed rape**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 12-30***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	90	A
31.	PL	**Spring oilseed rape**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 12-30**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	90	A

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
32.	PL	**Opium poppy; Common flax; Linen flax; ~~Broccoli; Brussels sprouts; Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine~~**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* BBCH 13**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	Poppy, common flax -90. ~~Broccoli; Brussels sprouts-28. Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine -45.~~	A **Opium poppy; Common flax; Linen flax;** N Broccoli Brussels sprouts; Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine
33.	PL	**Opium poppy; Common flax; Linen flax; ~~Broccoli; Brussels sprouts; Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine~~**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 13***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	Poppy, common flax -90. ~~Broccoli; Brussels sprouts-28. Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine -45.~~	A **Opium poppy; Common flax; Linen flax;** N Broccoli Brussels sprouts; Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
													lupine
34.	PL	**Opium poppy; Common flax; Linen flax; ~~Broccoli; Brussels sprouts; Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine~~**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 13**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	Poppy, common flax -90. ~~Broccoli; Brussels sprouts-28. Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine -45.~~	A **Opium poppy; Common flax; Linen flax;** N Broccoli Brussels sprouts; Broad beans; Faba bean; Field peas; White lupine; Yellow lupine; Narrow-leaved lupine
35.	PL	**Root celery; Parsnip; Swedes**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ;	Broadcast spraying	BBCH 13-29* BBCH 12**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	~~28~~ 30 For parsnip	A Parsnip Extrapolation from carrot

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
				Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*								60 for Root celery; Swedes	A Root celery; Swedes Extrapolation from sugar beet
36.	PL	**Root celery; Parsnip; Swedes**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 12***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	~~28~~ 30 for parsnip	A Parsnip Extrapolation from carrot
												60 for Root celery; Swedes	A Root celery; Swedes Extrapolation from sugar beet
37.	PL	**Root celery; Parsnip; Swedes**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 12**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	~~28~~ 30 for parsnip	A Parsnip Extrapolation from carrot
												60 for Root celery; Swedes	A Root celery; Swedes Extrapolation from sugar beet
38.	PL	**Garlic; Shallot**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena*	Broadcast spraying	BBCH 13-29* BBCH 11-12**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	30	A

Use-No. *	**Member state(s)**	**Crop and/ or situation **** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I*****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
				fatua) ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*									

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
39.	PL	**Garlic; Shallot**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 11-12***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	30	A
40.	PL	**Garlic; Shallot**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 11-12**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	30	A
41.	PL	**Fodder beet; Beetroot**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* BBCH 12-35**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	~~28~~ 60	A
42.	PL	**Fodder beet; Beetroot**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** BBCH 12-35***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	~~28~~ 60	A

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
43.	PL	**Fodder beet; Beetroot**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* BBCH 12-35**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	~~28~~ 60	A
44.	PL	**Jerusalem Artichokes; Horseradish; Black radish; Japanese radish (daikon); Radish; Salsify; White turnip; Black turnip**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* min. BBCH 12**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	~~28~~ Turnips, horseradish: 60 days Black radish; Japanese radish (daikon); Radish; Salsify, Jerusalem Artichokes: 30 days	A
45.	PL	**Jerusalem Artichokes; Horseradish; Black radish; Japanese radish (daikon); Radish; Salsify;**	F	Silky bentgrass *(Apera spica-venti)* ; self-seeding of cereals	Broadcast spraying	BBCH 13-21* BBCH 25-30** min. BBCH 12***	a) 1 b) 1	-	a) 0.5-0.7 b) 0.5-0.7	a) 0.050-0.070 b) 0.050-0.070	200-300	~~28~~ Turnips, horseradish: 60 days Black radish; Japanese radish (daikon);	A

Use-No. *	**Member state(s)**	**Crop and/ or situation** ** **(crop destination / purpose of crop)**	**F, Fn, Fpn G, Gn, Gpn or I*****	**Pests or Group of pests controlled** (additionally: developmental stages of the pest or pest group)	**Application**				**Application rate**			**PHI** (days)	**Conclusion**
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
		White turnip; Black turnip										Radish; Salsify, Jerusalem Artichokes: 30 days	

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
46	PL	**Jerusalem Artichokes; Horseradish; Black radish; Daikon; Radish; Salsify; White turnip; Black turnip**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* min. BBCH 12**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	~~28~~ Turnips, horseradish: 60 days Black radish; Japanese radish (daikon); Radish; Salsify, Jerusalem Artichokes: 30 days	A
47.	PL	**Alfalfa; Yellow alfalfa; Black medic; Red clover; White clover; Crimson clover; Common sainfoin; Vetch; Little white bird's-foot; Lentil; White melilot; Yellow melilot; Grass pea**	F	Common barnyardgrass *(Echinochloa crus-galli)*; Spring wild-oat *(Avena fatua)* ; Red fingergrass *(Digitaria sanguinalis)* ; Yellow bristlegrass *(Setaria pumila)* ; Green bristlegrass *(Setaria viridis)* ; Perennial ryegrass *(Lolium perenne)*	Broadcast spraying	BBCH 13-29* min. BBCH 13**	a) 1 b) 1	-	a) 0.6 b) 0.6	a) 0.060 b) 0.060	200-300	45	A
48.	PL	**Alfalfa;**	F	Silky bentgrass *(Apera*	Broadcast	BBCH 13-21*	a) 1	-	a) 0.5-0.7	a) 0.050-0.070	200-300	45	A

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
		Yellow alfalfa; Black medic; Red clover; White clover; Crimson clover; Common sainfoin; Vetch; Little white bird's-foot; Lentil; White melilot; Yellow melilot; Grass pea		*spica-venti)* ; self-seeding of cereals	spraying	BBCH 25-30** min. BBCH 13***	b) 1		b) 0.5-0.7	b) 0.050-0.070			

Use-No. *	Member state(s)	Crop and/ or situation ** (crop destination / purpose of crop)	F, Fn, Fpn G, Gn, Gpn or I***	Pests or Group of pests controlled (additionally: developmental stages of the pest or pest group)	Application				Application rate			PHI (days)	Conclusion
					Method / Kind	Timing / Growth stage of crop & season	Max. number a) per use b) per crop/ season	Min. interval between applications (days)	L product / ha a) max. rate per appl. b) max. total rate per crop/season	kg as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
49.	PL	**Alfalfa; Yellow alfalfa; Black medic; Red clover; White clover; Crimson clover; Common sainfoin; Vetch; Little white bird's-foot; Lentil; White melilot; Yellow melilot; Grass pea**	F	Couch grass *(Agropyron repens)*	Broadcast spraying	BBCH 13-16* min. BBCH 13**	a) 1 b) 1 OR a) 1 b) 2	12	a) 1.25-1.5 b) 1.25-1.5 OR a) 0.6 b) 1.2	a) 0.125-0.150 b) 0.125-0.150 OR a) 0.060 b) 0.120	200-300	45	N

* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1
** Use also code numbers according to Annex I of Regulation (EU) No 396/2005
*** F: professional field use, Fn: non-professional field use, Fpn: professional and non-professional field use, G: professional greenhouse use, Gn: non-professional greenhouse use, Gpn: professional and non-professional greenhouse use, I: indoor application

Explanation for Column 11 "Conclusion"

A	Exposure acceptable without risk mitigation measures, safe use
R	Further refinement and/or risk mitigation measures required
N	Exposure not acceptable, no safe use

7.1.2 Summary of the evaluation

The preparation Propaquizafop 10% EC is composed of Propaquizafop.

Table 7.1-2: Toxicological reference values for the dietary risk assessment of Propaquizafop

Reference value	Source	Year	Value	Study relied upon	Safety factor
Propaquizafop					
ADI	EFSA	2008	0.015 mg/kg bw/day	mouse long-term study	100
ArfD	EFSA	2008	Non applicable	-	-

7.1.2.1 Summary for Propaquizafop

Table 7.1-3: Summary for Propaquizafop

Use-No.*	Crop	Plant metabolism covered?	Sufficient residue trials?	PHI sufficiently supported?	Sample storage covered by stability data?	MRL compliance	Chronic risk for consumers identified?	Acute risk for consumers identified?
1-3	Sugarbeet	Yes	Yes	~~Yes~~ No	Yes	Yes	No	Not relevant
4-6	OSR	Yes	Yes	~~Yes~~ No	Yes	Yes		
7-9	Potato	Yes	Yes	Yes	Yes	Yes		
10-12	Onion	Yes	Yes	Yes	Yes	Yes		
13-15	Beans	Yes	~~Yes~~ No	~~Yes~~ No	~~Yes~~ No	~~Yes~~ No		
16-18	Peas	Yes	~~Yes~~ No	~~Yes~~ No	~~Yes~~ No	~~Yes~~ No		
19-21	Cabbage	Yes	Yes	~~Yes~~ No	Yes	Yes		
22-24	Carrot	Yes	Yes	~~Yes~~ No	Yes	Yes		
25-27	Strawberry	Yes	~~Yes~~ No	~~Yes~~ No	~~Yes~~ No	~~Yes~~ No		
28	OSR	Yes	Yes	Yes	Yes	Yes		
29-49	Minor uses	Yes	Yes/No See GAP table	Yes/No See GAP table	Yes/No See 7.1	Yes/No See 7.1		

* Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1

Intended uses 1-27 and 29-49 requested for SHA 6100A are identical to those of the reference product Agil S 100 EC (Registration R-208/2014) for more than 10 years and, therefore, not in a scope of data protection anymore.

As residues of propaquizafop do not exceed the trigger values defined in Reg (EU) No 283/2013, there is no need to investigate the effect of industrial and/or household processing.

Residues in succeeding crops have been sufficiently investigated taking into account the specific circumstances of the cGAP uses being considered here. It is very unlikely that residues will be present in succeeding crops.

Regarding available feeding data, there is no risk for animal MRL to be exceeded.

7.1.2.2 Summary for Propaquizafop 10% EC

Table 7.1-4: Information on Propaquizafop 10% EC (KCA 6.8)

Crop	PHI for Propaquizafop 10% EC proposed by applicant	PHI/ Withholding period* sufficiently supported for	PHI for Propaquizafop 10% EC proposed by zRMS	zRMS Comments (if different PHI proposed)
		Propaquizafop		
Sugarbeet	28	~~Yes~~ No	Yes	60 days
OSR	42	~~Yes~~ No	Yes	90 days
Potato	40	Yes	~~Yes~~ No	
Onion	30	Yes	~~Yes~~ No	
~~Beans~~	~~45~~	~~Yes~~	~~Yes~~	
~~Peas~~	~~45~~	~~Yes~~	~~Yes~~	
Cabbage	28	~~Yes~~ No	Yes	30 days
Carrot	28	~~Yes~~ No	Yes	30 days
~~Strawberry~~	~~–~~	~~Yes~~	~~Yes~~	Only post-harvest use is accepted
OSR	60	Yes	~~Yes~~ No	
Minor uses	28-90	Yes/No	~~Yes~~ see GAP table	

NR: not relevant
* Purpose of withholding period to be specified
** F: PHI is defined by the application stage at last treatment (time elapsing between last treatment and harvest of the crop).

Table 7.1-5: Waiting periods before planting succeeding crops

Waiting period before planting succeeding crops		Overall waiting period proposed by zRMS for SHA 6100 A
Crop group	**Led by Propaquizafop**	
All crops	NR	

NR: not relevant

Assessment

7.2 Propaquizafop

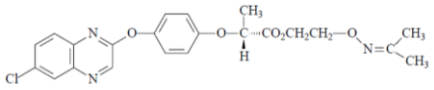
General data on Propaquizafop are summarized in the table below (last updated August 2020).

The present application is made according to the no data principle. ALIVE can be considered as equiva-

lent to AGIL S 100 EC (Reg. No. R-208/2014). For all necessary data to support this application reference is made to the unprotected data from AGIL S 100 EC authorization (in accordance with Article 34 of Regulation 1107/2009/EC).

Uses 1 to 27 and from 29 to 49 requested for ALIVE are identical to those of the reference product AGIL S 100 EC registered in Poland for more than 10 years and, therefore, not in a scope of data protection anymore. Reference is also made to new or additional Annex III data supporting this product under the re-authorization program shall not be protected, as provided in Article 43 of SANC0/12576/2012-rev.1.1 of 1 February 2013.

Table 7.2-1: General information on Propaquizafop

Active substance (ISO Common Name)	Propaquizafop
IUPAC	2-isopropylidenamino-oxyethyl ®-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy]propionate
Chemical structure	
Molecular formula	$C_{22}H_{22}ClN_3O_5$
Molar mass	443.9 g/mol
Chemical group	Aryloxyphenoxypropionate
Mode of action (if available)	Inhibition of fatty acid biosynthesis. The target site for inhibition is the enzyme Acetyl-CoA carboxylase which is located in the plastid of susceptible plants.
Systemic	Yes
Company	Makhteshim-Agan
Rapporteur Member State (RMS)	Austria (original RMS was UK)
Approval status	Approved Date of 01/12/2009 (Commission Directive 2009/37 REGULATION (EU) No 540/2011) http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0037&from=EN http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R0540&from=EN
Restriction	Only uses as herbicide may be authorised.
Review Report	SANCO/131/08 – final 26/05/2009
Current MRL regulation	~~Regulation (EU) 2017/171~~ Reg. (EU) 2019/973
Peer review of MRLs according to Article 12 of Reg No 396/2005 EC performed	Yes
EFSA Journal : Conclusion on the peer review	Yes (EFSA Scientific Report (2008) 204, 1-171)
EFSA Journal: conclusion on article 12	Yes (EFSA Journal 2017;15(12):5050)
Current MRL applications on intended uses	EFSA-Q-2010-00199 (EMS) All commodities Status: Reasoned opinion available EFSA Journal 2017;15(12):5050

7.2.1 Stability of Residues (KCA 6.1)

7.2.1.1 Stability of residues during storage of samples

Available data

No new data submitted in the framework of this application.

Table 7.2-2: Summary of stability data achieved at ≤ - 18°C (unless stated otherwise)

Matrix	Characteristics of the matrix	Acceptable Maximum Storage duration	Reference
Data relied on in EU			
Plant products			
Soya beans	High oil content	> 2 years	EFSA,2008 (Tribolet, R., 1996)
Rapeseed	High oil content	> 2 years	EFSA,2008 (Tribolet, R., 1996)
Tomato, Sugar beet (leaves)	High water content	> 2 years	EFSA,2008 (Tribolet, R., 1996)
Sugar beet (~~leaves and~~ roots)	High starch content	> 2 years	EFSA,2008 (Tribolet, R., 1998)
Carrots	High starch content	> 2 years	EFSA,2008 (Tribolet, R., 1997)
Qquizalofop			
Pea whole plant	High water content	At least 12 months	G. Rousseau, 2013, Report No.: 22853
Pea dry seed	High protein content		
Oli seed rape grain	High oil content		
Grape	High acid conetnt		

Conclusion on stability of residues during storage

The storage stability study showed the residue of propaquizafop and quizalofop to be stable under deep freeze storage conditions for at least 2 years in water, starch and oil plant matrices (EFSA 2008), covering the residue trials conducted to support intended uses.

In new study, storage stability of residues of Quizalofop was demonstrated for a period of 12 months at -18 °C in high water content commodities (pea whole plant), high protein content commodities (pea dry seed), high oil content commodities (oil seed rape grain) and in high acid content (grape).

Additionally, uses requested for ALIVE are identical to those of the reference product AGIL S 100 EC registered in Poland for more than 10 years and, therefore, not in a scope of data protection anymore.

7.2.1.2 Stability of residues in sample extracts (KCA 6.1)

No data was submitted and required at EU level during the EU Review of Propaquizafop.

7.2.2 Nature of residues in plants, livestock and processed commodities

7.2.2.1 Nature of residue in primary crops (KCA 6.2.1)

Available data

Table 7.2-3: Summary of plant metabolism studies

Crop Group	Crop	Label position	Application and sampling details					Reference
			Method, F or G (a)	Rate (kg a.s./ha)	No	Sampling (DAT)	Remarks	
EU data								
Leafy vegetables	lettuce	Hydroquinone and chlorophenyl-labelled propaquizafop.	Foliar, F	0.200	1	77	-	EFSA, 2008 (Diehl M., 2003)
		Hydroquinone-labelled propaquizafop	Foliar, F	1	1	77	-	
Root and tuber vegetables	Sugar beets	Quinoxaline-labelled propaquizafop	Foliar, G	0.200	2	98-114 DALA	-	EFSA, 2008 (Rümbeli, R., 1992)
Pulses and oilseeds	Cotton	Quinoxaline-labelled propaquizafop	Foliar, G	0.180	1	0, 6, 12, 22	-	EFSA 2008 (Dieterle, P., 1988a; Dieterle, P., 1990)
		Hydroquinone and chlorophenyl-labelled propaquizafop.	Onto leaf	0.180	1	0–51	-	
		Hydroquinone-labelled propaquizafop	Foliar	214 g a.s./ha	1	0, 15, 22 DALA	-	
	Soya beans	Hydroquinone-labelled propaquizafop	Foliar	0.100	1	0 to 28	-	EFSA 2008 (Pryde A. et al., 1987; Plüss A. 1989)
			Onto leaf	0.190	1	0, 7, 14	-	
			Foliar	0.268 – 0.298	2	66, 70	-	
		Quinoxaline-labelled propaquizafop	Foliar	0.200	1	8, 15	-	
			Foliar	0.280	2	66, 100 DALA	-	

Summary of plant metabolism studies reported in the EU

The metabolism of propaquizafop has been investigated during first peer review in cotton, soybean, lettuce and sugar beet, representing three groups of crops; oilseed/pulse crops, leafy crops and root/tuber crops. According to OECD 501 guideline as results of these three metabolism groups studies indicate comparable metabolic route, extrapolation is also applicable to fruits, and no additional study is needed.

Studies were performed using 14C-propaquizafop either labelled on the phenyl or the quinoxaline moiety

and with application rates representative of the supported uses (103 to 298 g a.s./ha). The metabolism proceeds primarily by the hydrolysis of the ester link to yield quizalofop followed by loss of the propionyl moiety leading to the quizalofop-phenol metabolite, these metabolites being also observed as conjugated in soya and cotton. Further metabolism occurs by hydroxylation of the quinoxaline moiety giving the hydroxy-quizalofop and hydroxy-quizalofop-phenol metabolites.

The metabolite pattern was dominated by quizalofop, which generally represents the major constituent of the residue, accounting for 5% to 35% of the TRR at harvest, the parent compound being mainly observed in significant proportions in immature plant samples collected within 15 days following the application. However, propaquizafop was also present in mature soybean seeds and sugar beets roots in similar amount to quizalofop accounting for c.a. 7% of the TRR (EFSA 2008).

Conclusion on metabolism in primary crops

According to the results from all available metabolism studies in primary crops, once quizalofop is formed after hydrolysis of the ester link, the metabolic pathways of the different esters in plants are similar.

Based on the above considerations, it can be concluded that an overall residue definition for monitoring and risk assessment covering all ester variants of quizalofop can be proposed as the sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers) (EFSA 2017).

7.2.2.2 Nature of residue in rotational crops (KCA 6.6.1)

Available data

Table 7.2-4: Summary of metabolism studies in rotational crops

Crop group	Crop	Label position	Application and sampling details					Reference
			Method, F or G *	Rate (kg a.s./ha)	Sowing intervals (DAT)**	Harvest Intervals (DAT)***	Remarks	
EU data								
Leafy vegetables	Spinach	Quinoxaline-labelled propaquizafop	Foliar, G	0.280	30, 120, 270	85, 183, 329	-	EFSA, 2008 (Plüs N., 1988)
Root and tuber vegetables	Sugar beet	Quinoxaline-labelled propaquizafop	Foliar, G	0.280	30, 120, 270	209, 308, 431	-	
Cereals	Wheat	Quinoxaline-labelled propaquizafop	Foliar, G	0.280	30, 120, 270	285, 383, 476	-	

* Outdoor/field application (F) or glasshouse/protected/indoor application (G)
** Days after second treatment of soya beans
*** Days after first treatment

Summary of plant metabolism studies reported in the EU

The metabolism of propaquizafop in rotational crops was investigated in sugar beet, spinach and wheat sown at plant-back intervals (PBIs) of 30, 120 and 270 days after harvest of soybeans treated twice with

quinoxaline moiety of propaquizafop at 280 g/ha (2.8N compared to the maximum dose rate authorised for propaquizafop) (EFSA 2008). The concentrations of radioactive residues in all succeeding crops ranged from 0.004 mg eq/kg in sugar beet roots and foliage sown 270 days after the second treatment to 0.167 mg eq/kg in straw from spring wheat sown 30 days after the second treatment. The metabolic pathway in rotational crops was found to be similar to the primary crop metabolism. Parent material was extensively broken down into numerous metabolites with the majority of the residue being incorporated into the lignin fraction. At all PBIs, the radioactive residues were mainly composed of quizalofop-P (up to 25% of TRR in spinach corresponding to 0.01 mg eq/kg), CQOP and their hydroxy metabolites (up to 7.6% TRR corresponding to 0.003 mg eq/kg).

Conclusion on metabolism in rotational crops

Propaquizafop was not observed in the plant parts investigated and the detected metabolites (quizalofop, quizalofop-phenol and their hydroxy derivatives) have also been identified in the primary crop studies, suggesting a similar metabolic pathway in both primary and rotational crops. It was concluded that no significant residues of propaquizafop or its metabolites are expected in rotational crops (EFSA 2008).

7.2.2.3 Nature of residues in processed commodities (KCA 6.5.1)

Available data

No new data submitted in the framework of this application.
Moreover, based on EFSA conclusions (EFSA, 2008), considering the low residue levels detected in the raw agricultural products (<0.05 mg/kg), the behaviour of the residues in processing commodities was not investigated and was considered not required.

Conclusion on nature of residues in processed commodities

Based on the representative uses supported in the framework of the peer review, the submission of a standard hydrolysis study was concluded to be not required (EFSA, 2008).

7.2.2.4 Conclusion on the nature of residues in commodities of plant origin (KCA 6.7.1)

Table 7.2-5: Summary of the nature of residues in commodities of plant origin

Endpoints	
Plant groups covered	Root and tuber vegetables (sugar beets…) Leafy vegetables (lettuce..) Pulses and oilseeds (cotton, soya beans..) Fruits (citrus, olive..)
Rotational crops covered	Root and tuber vegetables (sugar beets) Leafy vegetables (spinach) Cereals (spring wheat)
Metabolism in rotational crops similar to metabolism in primary crops?	Yes
Processed commodities	Not applicable
Residue pattern in processed commodities similar to pattern in raw commodities?	Yes
Plant residue definition for monitoring	Propaquizafop Provisional: Sum propaquizafop and quizalofop expressed as quizalofop (sum of

	isomers) (EFSA, 2008) Sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers) (EFSA, 2017) Reg. (EU) 2019/973: Quizalofop (sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers))
Plant residue definition for risk assessment	Propaquizafop Provisional: Sum propaquizafop and quizalofop expressed as quizalofop (sum of isomers) (EFSA, 2008) Sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers) (EFSA, 2017)
Conversion factor from enforcement to RA	Not applicable

7.2.2.5 Nature of residues in livestock (KCA 6.2.2-6.2.5)

Available data

No new data submitted in the framework of this application.

Table 7.2-6: Summary of animal metabolism studies

Group	Species	Label position	No of animal	Application details		Sample details		Reference
				Rate (mg/kg bw/d)	Duration (days)	Commodity	Time of sampling	
EU data								
Lactating ruminants	Goat	Hydroquinone-labelled propaquizafop	1	0.8	10	Milk	Twice daily	DAR,2005 (Ellgehausen H., 1985a,b; Dieterle P. 1988b; Cameron B.D. and Dunsire J.P., 1989)
						Urine and faeces	daily	
						Tissues	24h after last dose	
		Quinoxaline-labelled propaquizafop	1	0.9	10	Milk	Twice daily	
						Urine and faeces	daily	
						Tissues	24h after last dose	
Laying poultry	Hens	hydroquinone- and quinoxaline-labelled propaquizafop	10	50	6	Eggs	daily	
						Excreta	daily	
						Tissues	At sacrifice	

Summary of animal metabolism studies reported in the EU

During the peer review, the metabolism of propaquizafop in livestock has been investigated with hydroquinone- and quinoxaline-labelled propaquizafop in lactating goats and in laying hens (DAR, 2005). In the goat study, the animals were dosed during 10 consecutive days with an exaggerate dose of 0.8–0.9 mg/kg bw per day (7N compared to maximum dietary burden for sheep). In the hens study, the animals

were dosed during six consecutive days with an exaggerate dose of 50 mg/kg bw per day (1389N compared to maximum dietary burden for poultry).
These metabolism studies show that propaquizafop is rapidly metabolised and excreted by livestock. Radioactivity in milk reached a plateau level (0.95 mg/kg) at 3–4 days. Residues in ruminant tissues were generally low, with the highest being in the kidney (0.84 mg/kg) and in fat (0.275 mg/kg). The major component of the residues in liver, kidney and muscle was quizalofop-P. Further metabolism of quizalofop-P by hydroxylation to hydroxy-quizalofop-P and dealkylation to the metabolite CQOP was evident but these metabolites did not comprise significant portions of the total residue.
In hens, the highest residues were observed in liver and kidney (76 mg/kg and 75 mg/kg, respectively). Quizalofop-P was the only radioactive product found in tissues and eggs, with the exception of the metabolite CQOPOH that was found in one of the two liver samples analysed (25 mg/kg).

Conclusion on metabolism in livestock

On the basis on these studies on propaquizafop, it is concluded that, since these studies demonstrate that propaquizafop is rapidly metabolised to quizalofop, the results from the metabolism studies performed with the other ester variants may be considered representative of the metabolism of propaquizafop as well (DAR, 2005).

Based on the results of all metabolism studies available for the three ester variants, the residue definition for enforcement and risk assessment in all animal commodities, is proposed as the sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers) (EFSA 2017).

7.2.2.6 Conclusion on the nature of residues in commodities of animal origin (KCA 6.7.1)

Table 7.2-7: Summary on the nature of residues in commodities of animal origin

	Endpoints
Animals covered	Lactating goats
	Laying hens
Time needed to reach a plateau concentration	Plateau level (0.46 – 0.95 mg/kg) at 3–4 days in milk (Study No. 047880, H. Ellgehausen, 1985a from DAR)
	Plateau level (0.42 – 0.71 mg/kg) at 3-4 days in milk (Study No. 047891, H. Ellgehausen, 1985b from DAR)
Animal residue definition for monitoring	Propaquizafop Provisional EFSA, 2017): For poultry liver and kidney: sum of quizalofop, its salts, its esters (including propaquizafop), its conjugates, its pentanoic acid metabolite and its conjugates, expressed as quizalofop (any ratio of constituent isomers) For all other commodities of animal origin including milks and eggs: sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers)
Animal residue definition for risk assessment	Propaquizafop Provisional (EFSA, 2017): For poultry liver and kidney: sum of quizalofop, its salts, its esters (including propaquizafop), its conjugates, its pentanoic acid metabolite and its conjugates, expressed as quizalofop (any ratio of constituent isomers) For all other commodities of animal origin including milks and eggs: sum of quizalofop, its salts, its esters (including propaquizafop) and its

	conjugates, expressed as quizalofop (any ratio of constituent isomers)
Conversion factor	Not applicable
Metabolism in rat and ruminant similar	Yes
Fat soluble residue	No

7.2.3 Magnitude of residues in plants (KCA 6.3)

7.2.3.1 Summary of European data and new data supporting the intended uses

No new data are submitted in the framework of this application.

Table 7.2-8: Summary of EU reported and new data supporting the intended uses of Propaquizafop 10% EC and conformity to existing MRL

Commodity	Source	Residue zone (N-EU, S-EU, EU, outside EU)	Evaluation GAP Residue levels (mg/kg) E = according to enforcement residue definition RA = according to risk assessment residue definition	STMR (mg/kg)	HR (mg/kg)	Unrounded OECD calcula-tor MRL (mg/kg)	Current EU MRL (mg/kg) *	MRL compliance
Strawberries	~~EFSA 2017~~	~~NEU~~	~~GAP on which EU a.s. assessment is based: 1x 0.15 kg as/ha, BBCH 39, PHI 35~~ ~~3<0.01, 1x<0.02~~	~~0.01~~	~~0.02~~		~~0.02~~	
	Unprotected data RR Agil 100 EC (Registration No. R-208/2014)	NEU	Trials GAP: 1 x 0.2 kg a.s./ha, PHI: 49-171d 3<0.01, 1x<0.02	0.01	0.02	0.02	0.02	Yes
Potato	~~EFSA 2017~~ Unprotected data RR Agil 100 EC (Registration No. R-208/2014)	~~NEU~~	GAP on which EU a.s. assessment is based: 1x 0.15 kg as/ha, PHI 30 2x<0.02, 4x<0.01					

	~~EFSA 2017~~	~~SEU~~	~~6x<0.02, 4x<0.01~~					
	Unprotected data RR Agil 100 EC (Registration No. R-208/2014)	NEU	Trials GAP: 1 x 0.2 kg a.s./ha, PHI: 49-171d 2<0.01, 2x<0.02					
	Overall supporting data for cGAP		~~8x<0.02, 8x<0.01~~ 6<0.01, 4x<0.02	0.01	0.02	0.02	0.1	Yes
Carrot → extrapolated to parsley, parsnip, ~~swede,~~ Jerusalem artichokes, horseradish, black radish, Japanese radish, radish, salsify, turnips	~~EFSA 2017~~ Unprotected data RR Agil 100 EC (Registration No. R-208/2014)	NEU	GAP on which EU a.s. assessment is based: 1x 0.15 kg as/ha, BBCH 29, PHI 30 3 x < 0.01; 0.012; 0.016; 0.017; 2 x < 0.02; 0.025; 0.061					
	~~EFSA 2017~~	~~SEU~~	~~< 0.01; < 0.01; 0.017; 0.017; < 0.02; < 0.02; < 0.02; < 0.02~~					
	Overall supporting data for cGAP		~~3 x < 0.01; 0.012; 0.016; 0.017; 2 x < 0.02; 0.025; 0.061, < 0.01; < 0.01; 0.017; 0.017; < 0.02; < 0.02; < 0.02; < 0.02~~ 3 x < 0.01; 0.012; 0.016; 0.017; 2 x < 0.02; 0.025; 0.061	~~0.02~~ 0.017	0.06	0.081	0.2	Yes
Onion → extrapolated to garlic, shallot	~~EFSA 2017~~ Unprotected data RR Agil 100 EC (Registration	NEU	GAP on which EU a.s. assessment is based: 1x 0.2 kg as/ha, PHI 30 ~~7 x < 0.01; 2 x < 0.02;~~					

	No. R-208/2014)		~~0.025~~ 8 x <0.01, 1 x <0.02, 0.025					
	~~EFSA 2017~~	~~SEU~~	~~Onions: 4 x < 0.01~~ ~~Garlic: 1x< 0.02~~					
	Overall supporting data for cGAP		~~7 x < 0.01; 2 x < 0.02; 0.025, 4 x < 0.01, 1x< 0.02~~ 8 x <0.01, 1 x <0.02, 0.025	0.01	~~0.03~~ 0.025	0.034	0.04	Yes
Sugar beet→ extrapolated to fodder beet, beet-root, root celery, swede	EFSA 2017 / DAR 2005 (Mostert, 1992a,b,c; Schwager, 1991; Adams, 1996a,b, 1997a; Freeman 1991a; Hänni 1987a, 1989a,b) Unprotected data RR Agil 100 EC (Registration No. R-208/2014)	NEU	GAP on which EU a.s. assessment is based: 1x 0.15-0.2 kg as/ha, BBCH 37, PHI 91 15 x < 0.02; 7 x < 0.05					
	~~EFSA 2017~~	~~SEU~~	~~2 x < 0.02~~					
	Overall supporting data for cGAP		15 x < 0.02; 7 x < 0.05, ~~2 x < 0.02~~	0.02	0.05	0.05	0.06	Yes
Beans, Peas→ extrapolated to	EFSA 2017	NEU	GAP on which EU a.s. assessment is based: 1x 0.15-0.2 kg as/ha, BBCH 39, PHI 40-45					

lupines, field peas, field beans			4 x < 0.01					
	~~EFSA 2017~~	~~SEU~~	~~< 0.006; 4 x < 0.01~~					
	Unprotected data RR Agil 100 EC (Registration No. R-208/2014)	NEU	Peas Trials GAP: 1 x 0.2 kg a.s./ha, Phi 38 d 2 x <0.01 Beans 3 x <0.02, <0.05					
	Overall supporting data for cGAP		~~4~~ 6 x < 0.01, 3x <0.02, <0.05 ~~< 0.006; 4 x < 0.01~~	0.01	0.05	0.05	0.2	Yes
Head cabbages → ~~extrapolated to broccoli, brussels sprout~~ extrapolated to brussels sprout	EFSA 2017 Unprotected data RR Agil 100 EC (Registration No. R-208/2014)	NEU	GAP on which EU a.s. assessment is based: 1x 0.15 kg as/ha, BBCH 29, PHI 30 4 x < 0.01; 0.012; 0.013; 0.014; 0.017; 0.018; 0.020; 0.023; 0.039; 0.081 0.01, 0.016, 0.018, 0.023, 0.024, 0.027, 0.03, 0.052, 0.108					
	~~EFSA 2017~~	~~SEU~~	~~0.018; 2 x 0.027; 0.112~~					
	Overall supporting data for cGAP		~~4 x < 0.01; 0.012; 0.013; 0.014; 0.017; 0.018; 0.020; 0.023; 0.039; 0.081, 0.018; 2 x 0.027; 0.112~~ 4 x <0.01, 0.01, 0.012, 0.013, 0.014, 0.016, 0.017, 2 x 0.018, 0.020, 2 x 0.023, 0.024, 0.027, 0.03, 0.039, 0.052, 0.081, 0.108	~~0.03~~ 0.018	~~0.11~~ 0.108	0.125	0.6	Yes
Rapeseeds → extrapolated to poppy seed, flax,	EFSA 2017 / DAR 2005 (Adams 1997b,c;	NEU	GAP on which EU a.s. assessment is based: 1x 0.2 kg as/ha, BBH 31, PHI 90 5 x < 0.01; 0.01; 0.02;					

linseeds	Freeman 1990) Unprotected data RR Agil 100 EC (Registration No. R-208/2014)		0.014; 0.015; 0.017; 0.019; < 0.02; 0.022; 0.03; < 0.05; 0.062 0.03, 0.02, 6x<0.05					
	~~EFSA 2017~~	~~SEU~~	~~4 x < 0.01~~					
	Overall supporting data for cGAP		5 < 0.01; 0.01; 0.02; 0.014; 0.015; 0.017; 0.019; < 0.02; 0.022; 0.03; < 0.05; 0.062 0.03, 0.02, 6x<0.05, ~~4 x < 0.01~~	0.02	0.06	0.099	2.0	Yes

* Source of EU MRL: Reg. (EU) 2019/973

7.2.3.2 Conclusion on the magnitude of residues in plants

For all necessary data to support this application reference is made to the unprotected data from AGIL S 100 EC authorization (Reg. No. R-208/2014).

Uses 1 to 27 and from 29 to 49 requested for ALIVE are identical to those of the reference product AGIL S 100 EC registered in Poland for more than 10 years and, therefore, not in a scope of data protection anymore. Reference is also made to new or additional Annex III data supporting this product under the re-authorization program shall not be protected, as provided in Article 43 of SANC0/12576/2012-rev.1.1 of 1 February 2013.

~~According to the available data, the intended uses are considered acceptable.~~

~~The data submitted in Table 7.2-9 show that no exceedance of the MRL will occur.~~

7.2.4 Magnitude of residues in livestock

7.2.4.1 Dietary burden calculation

Animal metabolism studies presented during the Annex I inclusion process of Propaquizafop demonstrate that Propaquizafop is rapidly metabolised and excreted from the body and therefore it is unlikely that there will be significant accumulation of residues in animal tissues and animal products. Moreover, on the basis of the calculations performed in the DAR, dietary burden calculations show that total Propaquizafop residues in the total diet as received by cattle do not exceed 0.1 mg/kg using either diet, which was confirmed by EFSA conclusions (EFSA Scientific Report (2008) 204, 1-171).

However, EFSA proposed a new residue definition for animal commodities defined as “sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers)”. Therefore, EFSA performed new calculations taking into account the following assumptions: “Quizalofop variants and propaquizafop are authorised for use on several crops that might be fed to livestock. For each feed item, risk assessment values were compared and the most critical values selected for the exposure calculation. This approach is based on the assumption that the three ester variants are not used together on the same crop.”
These calculations are presented below for intended uses for ALIVE.

Table 7.2-9: Input values for the dietary burden calculation (considering the uses evaluated in Art. 12 procedure and the uses under consideration)

Feed Commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Risk assessment residue definition: sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers)				
Beet, mangel (roots)	0.04	STMR (quizalofop-P-tefuryl) (tentative)	0.05	STMR (quizalofop-P-tefuryl) (tentative)
Beet, mangel (tops)	0.18	STMR (quizalofop-P-tefuryl) (tentative)	0.25	STMR (quizalofop-P-tefuryl) (tentative)

Feed Commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Beet, sugar (tops)	0.18	STMR (quizalofop-P-tefuryl) (tentative)	0.25	STMR (quizalofop-P-tefuryl) (tentative)
Cabbage, heads	0.05	STMR (quizalofop-P-ethyl) (tentative)	0.20	HR (quizalofop-P-ethyl) (tentative)
Carrot, culls	0.06	STMR (quizalofop-P-tefuryl) (tentative)	0.10	HR (quizalofop-P-tefuryl) (tentative)
Potato, culls	0.04	STMR (quizalofop-P-tefuryl) (tentative)	0.08	HR (quizalofop-P-tefuryl) (tentative)
Beans, dry Cowpeas, dry Peas, dry	0.07	STMR (quizalofop-P-ethyl) (tentative)	0.07	HR (quizalofop-P-tefuryl) (tentative)
Sugar beet, dried pulp	0.72	STMR x 18[(a)] (quizalofop-P-tefuryl) (tentative)	0.72	STMR x 18[(a)] (quizalofop-P-tefuryl) (tentative)
Sugar beet, ensiled pulp	0.12	STMR x 3[(a)] (quizalofop-P-tefuryl) (tentative)	0.12	STMR x 3[(a)] (quizalofop-P-tefuryl) (tentative)
Sugar beet, molasses	1.12	STMR x 28[(a)] (quizalofop-P-tefuryl) (tentative)	1.12	STMR x 28[(a)] (quizalofop-P-tefuryl) (tentative)
Rapeseed (canola), meal	0.42	STMR x PF (1.81) (quizalofop-P-tefuryl) (tentative)	0.42	STMR x PF (1.81) (quizalofop-P-tefuryl) (tentative)
Flaxseed/Linseed, meal	0.2	STMR x 2[(a)] (quizalofop-P-ethyl) (tentative)	0.2	STMR x 2[(a)] (quizalofop-P-ethyl) (tentative)
Potato process waste	0.80	STMR x 20[(a)] (quizalofop-P-tefuryl) (tentative)	0.80	STMR x 20[(a)] (quizalofop-P-tefuryl) (tentative)
Potato dried pulp	1.52	STMR x 38[(a)] (quizalofop-P-tefuryl) (tentative)	1.52	STMR x 38[(a)] (quizalofop-P-tefuryl) (tentative)
Rape meal	0.42	STMR x PF (1.81) (quizalofop-P-tefuryl) (tentative)	0.42	STMR x PF (1.81) (quizalofop-P-tefuryl) (tentative)

Table 7.2-10: Results of the dietary burden calculation

Animal species	Median dietary burden (mg/kg bw/d)	Maximum dietary burden (mg/kg bw/d)	Highest contributing commodity	Max dietary burden (mg/kg DM)	Trigger exceeded (Y/N)
Sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers)					
Beef cattle (all diets)*	0.092	0.109	Potato, process waste	3.55	Y
Dairy cattle*	0.092	0.109	Potato, process waste	1.14	Y
Ram/ewe	0.103	0.124	Potato, process waste	3.71	Y
Finishing swine (all diets)*	0.039	0.044	Potato, process waste	1.90	Y
Poultry (all diets)	0.029	0.036	Potato, dried pulp	0.53	Y

* These categories correspond to those (formerly) assessed at EU level.

Applicants provides updated results of dietary burden calculation according to the current EU requirements.

Table 7.2-11: Input values for the dietary burden calculation (considering the uses evaluated in Art. 12 procedure and the uses under consideration)

Feed Commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Risk assessment residue definition: sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers)				
Alfalfa, forage	0.02	STMR (EFSA, 2017)	0.51	HR (EFSA, 2017)
Alfalfa, hay	0.05	STMR (0.02) * PF (2.5) (EFSA, 2017)	1.28	HR (0.51) * PF (2.5) (EFSA, 2017)
Alfalfa, meal	0.05	STMR (0.02) * PF (2.5) (EFSA, 2017)	1.28	HR (0.51) * PF (2.5) (EFSA, 2017)
Alfalfa, silage	0.02	STMR (0.02) * PF (1.1) (EFSA, 2017)	0.56	HR (0.51) * PF (1.1) (EFSA, 2017)
Beet, sugar tops	0.18	STMR (EFSA, 2017)	0.25	HR (EFSA, 2017)
Cabbage, heads leaves	0.05	STMR (EFSA, 2017)	0.20	HR (EFSA, 2017)
Clover forage	0.02	STMR (EFSA, 2017)	0.51	HR (EFSA, 2017)
Clover hay	0.06	STMR (0.02) * PF (3) (EFSA, 2017)	1.53	HR (0.51) * PF (3) (EFSA, 2017)

Feed Commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Clover silage	0.02	STMR (EFSA, 2017)	0.51	HR (EFSA, 2017)
Rice straw	0.02	STMR (EFSA, 2017)	0.02	HR (EFSA, 2017)
Turnip tops	0.03	STMR (EFSA, 2017)	0.40	HR (EFSA, 2017)
Vetch forage	0.02	STMR (EFSA, 2017)	0.26	HR (EFSA, 2017)
Vetch hay	0.06	STMR (0.02) * PF (2.8) (EFSA, 2017)	0.73	HR (0.26) * PF (2.8) (EFSA, 2017)
Carrot culls	0.06	STMR (EFSA, 2017)	0.10	HR (EFSA, 2017)
Potato culls	0.04	STMR (EFSA, 2017)	0.08	HR (EFSA, 2017)
Swede roots	0.04	STMR (EFSA, 2017)	0.05	HR (EFSA, 2017)
Turnip roots	0.04	STMR (EFSA, 2017)	0.05	HR (EFSA, 2017)
Bean seed dry	0.07	STMR (EFSA, 2017)	0.07	STMR (EFSA, 2017)
Cotton undelinted seed	0.04	STMR (EFSA, 2017)	0.04	STMR (EFSA, 2017)
Cowpea seed	0.07	STMR (EFSA, 2017)	0.07	STMR (EFSA, 2017)
Pea seed	0.07	STMR (EFSA, 2017)	0.07	STMR (EFSA, 2017)
Soybean seed	0.04	STMR (EFSA, 2017)	0.04	STMR (EFSA, 2017)
Apple pomace wer	0.10	STMR (0.02) * PF (5) (EFSA, 2017)	0.10	STMR (0.02) * PF (5) (EFSA, 2017)
Beet, sugar dired pulp	0.72	STMR (0.04) * PF (18) (EFSA, 2017)	0.72	STMR (0.04) * PF (18) (EFSA, 2017)
Beet, sugar ensiled pulp	0.12	STMR (0.04) * PF (3) (EFSA, 2017)	0.12	STMR (0.04) * PF (3) (EFSA, 2017)
Canola meal	0.46	STMR (0.23) * PF (2) (EFSA, 2017)	0.46	STMR (0.23) * PF (2) (EFSA, 2017)
Cotton meal	0.05	STMR (0.04) * PF (1.3) (EFSA, 2017)	0.05	STMR (0.04) * PF (1.3) (EFSA, 2017)
Flaxseed/Linseed meal	0.20	STMR (0.10) * PF (2) (EFSA, 2017)	0.20	STMR (0.10) * PF (2) (EFSA, 2017)

Feed Commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Potato process waste	0.80	STMR (0.04) * PF (20) (EFSA, 2017)	0.80	STMR (0.04) * PF (20) (EFSA, 2017)
Potato dried pulp	1.52	STMR (0.04) * PF (38) (EFSA, 2017)	1.52	STMR (0.04) * PF (38) (EFSA, 2017)
Rape meal	0.46	STMR (0.23) * PF (2) (EFSA, 2017)	0.46	STMR (0.23) * PF (2) (EFSA, 2017)
Rice bran/pollard	0.50	STMR (0.05) * PF (10) (EFSA, 2017)	0.50	STMR (0.05) * PF (10) (EFSA, 2017)
Soybean meal	0.05	STMR (0.05) * PF (1.3) (EFSA, 2017)	0.05	STMR (0.05) * PF (1.3) (EFSA, 2017)
Soybean hulls	0.52	STMR (0.05) * PF (13) (EFSA, 2017)	0.52	STMR (0.05) * PF (13) (EFSA, 2017)
Sunflower meal	0.23	STMR (0.12) * PF (2) (EFSA, 2017)	0.23	STMR (0.12) * PF (2) (EFSA, 2017)

Table 7.2-12: Results of the dietary burden calculation

Animal species	Median dietary burden (mg/kg bw/d)	Maximum dietary burden (mg/kg bw/d)	Highest contributing commodity	Max dietary burden (mg/kg DM)	Trigger exceeded (Y/N)
Sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers)					
Cattle (all diets)	0.090	0.109	Potato, process waste	3.54	Y
Cattle (dairy only)	0.090	0.109	Potato, process waste	2.82	Y
Sheep (all diets)	0.098	0.123	Potato, process waste	3.70	Y
Sheep (ewe only)	0.098	0.123	Potato, process waste	3.70	Y
Swine (all diets)	0.037	0.044	Potato, process waste	1.90	Y
Poultry (all diets)	0.029	0.036	Potato, dried pulp	0.53	Y
Poultry (layer only)	0.025	0.036	Potato, dried pulp	0.53	Y

* These categories correspond to those (formerly) assessed at EU level.

7.2.4.2 Livestock feeding studies (KCA 6.4.1-6.4.3)

Available data

No new data were submitted in the framework of this application.

Table 7.2-13: Overview of the values derived from livestock feeding studies

Commodity	Dietary burden		Results of the livestock feeding study						Median residue (mg/kg)[b]	Highest residue (mg/kg)[c]	Calculated MRL (mg/kg)	CF for RA[d]
	Med. (mg/kg bw/d)	Max. (mg/kg bw/d)	Dose Level (mg/kg bw/d)[a]	No	Result for enforce-ment		Result for RA					
					Mean (mg/kg)	Max. (mg/kg)	Mean (mg/kg)	Max. (mg/kg)				
EU data (EFSA, 2017)												
Enforcement residue definition: Sum of quizalofop, its salts, its esters (including propaquizafop) and its conjugates, expressed as quizalofop (any ratio of constituent isomers)												
Pig meat[g]	0.039	0.044	0.025 (0.6N)[d]		n.r.	n.r.	<0.02	<0.02	<0.02	<0.02	0.02* (tentative)[e]	-
Pig fat[g]					n.r.	n.r.	<0.02	<0.02	<0.02	<0.02	0.02* (tentative)[e]	-
Pig liver[g]					n.r.	n.r.	<0.02	<0.02	<0.02	<0.02	0.02* (tentative)[e]	-
Pig kidney[g]					n.r.	n.r.	0.04	0.04	0.07	0.10	0.10 (tentative)[e]	-
Ruminant meat[g]	0.092	0.109	0.08 (0.7N)[d]		n.r.	n.r.	<0.02	<0.02	<0.02	<0.02	0.02* (tentative)[e]	-
Ruminant fat[g]					n.r.	n.r.	<0.02	<0.02	<0.02	<0.02	0.02* (tentative)[e]	-
Ruminant liver[g]					n.r.	n.r.	<0.02	<0.02	<0.02	<0.02	0.03 (tentative)[e]	-
Ruminant kidney[g]					n.r.	n.r.	0.15	0.19	0.16	0.22	0.3 (tentative)[e]	-
Poultry meat	0.029	0.036	0.04 (1.1N)[d]		n.r.	n.r.	<0.02	<0.02	<0.02	<0.02	0.02* (tentative)[e]	-
Poultry fat					n.r.	n.r.	0.03	0.03	0.03	0.03	0.04 (tentative)[e]	-
Poultry liver					n.r.	n.r.	0.04	0.04	0.04	0.04	0.04 (tentative)[e]	-
Milk[f]	0.092	0.109	0.08 (0.7N)[d]		n.r.	n.r.	<0.01	n.a	0.1	0.1	0.015 (tentative)[e]	-
Eggs	0.025	0.036	0.04 (1.1N)[d]		n.r.	n.r.	<0.01	<0.01	<0.01	<0.01	0.01* (tentative)[e]	-

n.r.: Not reported
(*): Indicates that the MRL is set at the limit of analytical quantification.
(a): Livestock feeding studies performed with quizalofop-P-tefuryl variant.
(b): The mean residue level for milk, eggs and tissues were recalculated at the 1N rate for the median dietary burden.
(c): The mean residue level in milk and the highest residue levels in eggs and tissues were recalculated at the 1N rate for the maximum dietary burden.
(d): Closest feeding level and N dose rate related to the maximum dietary burden.

(e): MRL proposal is tentative because efficiency of extraction and hydrolysis steps of the analytical method used in the livestock feeding studies and proposed for enforcement needs to be demonstrated.
(f): Highest residue level from day 1 to day 28 (daily mean of 3 cows).
(g): Since extrapolation from cattle to other ruminants and swine is acceptable, results of the livestock feeding study on ruminants were relied upon to derive the MRL and risk assessment values in sheep and swine.

Conclusion on feeding studies

Regarding available feeding data, there is no risk for animal MRL to be exceeded.

7.2.5 Magnitude of residues in processed commodities (Industrial Processing and/or Household Preparation) (KCA 6.5.2-6.5.3)

7.2.5.1 Available data for all crops under consideration

No new data were submitted in the framework of this application.

Conclusion on processing studies

Conclusions drawn from EFSA Scientific Report (2008) 204, 1-171 are reported below:
Considering the low residue levels detected in the raw agricultural products (<0.1 mg/kg), the behaviour of the residues in processing commodities was not investigated and was considered not required.

7.2.6 Magnitude of residues in representative succeeding crops

The crops under consideration can be grown in rotation.

Considering available data dealing with nature of residues (see 7.2.2.2), no study dealing with magnitude of residues in succeeding crops is needed.

7.2.6.1 Field rotational crop studies (KCA 6.6.2)

Available data

No new data submitted in the framework of this application.

Conclusion on rotational crops studies

It is concluded that significant residues of propaquizafop are not expected to be present in rotational crops (EFSA 2008).

7.2.7 Other / special studies (KCA6.10, 6.10.1)

The available data for the active substance sufficiently address aspects of the residue situation that might arise from the use of Propaquizafop 10% EC. Therefore, other special studies are not needed.

7.2.8 Estimation of exposure through diet and other means (KCA 6.9)

Toxicological reference values relevant for dietary risk assessment are reported in the summary of the evaluation (see 7.1.2).

7.2.8.1 Input values for the consumer risk assessment

Toxicological reference values relevant for dietary risk assessment are reported in the summary of the evaluation (see 7.1.2).

Current MRL are considered for all crops for consumer risk assessment.

7.2.8.2 Conclusion on consumer risk assessment

Extensive calculation sheets are presented in Appendix 3.

Table 7.2-14: Consumer risk assessment

TMDI (% ADI) according to EFSA PRIMo 3.1	40 % (based on NL toddler)
IESTI (% ARfD) according to EFSA PRIMo 3.1	Not applicable as no ARfD was considered applicable during active ingredient inclusion (EFSA 2008)

* include raw and processed commodities if both values are required for PRIMo
** if national model is available

The calculation of the TMDI was performed taking into account all the crops to which propaquizafop may be applied. The summary of the calculation using the EFSA model rev 3.1 is presented in Appendix 3. With the current EFSA model the chronic risk assessment reaches a maximum of 40% of ADI. The diet with the highest TMDI is "NL toddler". For this diet, the highest contributor is OSR with 13% of ADI.

Based on the above calculation, it can be concluded that the proposed uses of propaquizafop in the formulation SHA 6100A do not represent unacceptable chronic or acute risk for the consumer.

7.3 Combined exposure and risk assessment

Not relevant. The product contains only one active substance.

7.4 References

Italy, 2006. Draft Assessment Report (DAR). Initial risk assessment provided by the rapporteuyr Member State Italy for the existing active substance Propaquizafop of the third stage (Part A) of the Council Directive 91/414/EEC; Volume 3, Annex B, B.7. June 2006.

DAR 2005. Draft assessment report on the active substance on the active substance propaquizafop prepared by the rapporteur Member State Italy in the framework of Council Directive 91/414/EEC, September 2005.

Italy, 2008. Final addendum to the draft assessment report on the active substance propaquizafop, compiled by EFSA, September 2008.

EFSA (European Food Safety Authority), 2017. Review of the existing maximum residue levels for quizalofop-P-ethyl, quizalofop-P-tefuryl and Propaquizafop according to Article 12 of Regulation (EC) No 396/2005. 13 October 2017.

EFSA (European Food Safety Authority), 2008. Conclusion regarding the peer review of the pesticide risk assessment of propaquizafop (an ester variant of quizalofop-P). EFSA Scientific Report (2008) 204, 1-171.

Appendix 1 Lists of data considered in support of the evaluation

Tables considered not relevant can be deleted as appropriate.

MS to blacken authors of vertebrate studies in the version made available to third parties/public.

List of data submitted by the applicant and relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner

List of data submitted or referred to by the applicant and relied on, but already evaluated at EU peer review

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
IIIA 8.3.7/01	E. Chevalier	2011	Magnitude of residue of quizalofop-P- ethyl, propaquizafop and metabolites in open-field strawberry Raw Agricultural Commodity after one application of AG-Q2-50 EC or AG- P6-100 EC - 4 trials (2 DCS + 2 HS) . Northern Europe . 2011 BIOTEK Agriculture Quena Plant Protection Study No.: BPL 11/341/CL, Report No.: 90014452 GLP, Published	N	Quena Plant Protection N. V.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
IIIA 8.3.7/02	R. Tribolet	1994	Determination of total residue of parent compound CGA233380 and metabolites CGA 129674 and CGA 287422 in strawberries - 1 trials . Northern Europe . 1994 Quena Plant Protection Report No.: 90003977 Unpublished	N	Quena Plant Protection N. V.
IIIA 8.3.9/02	C. Bousquet	2010	Magnitude of residue of Propaquizafop and metabolites in potato Raw Agricultural Commodity after one application of AG-P6-100 EC . 2 trials (1 HS + 1 DCS) . Northern Europe (Northern France and Poland) - 2009, BIOTEK Agriculture Quena Plant Protection Study No.: BPL09/182/CL, Report No.: 90012474 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.9/03	C. H. Roussel	2007	Magnitude of the Residues of Propaquizafop In Potatoes (RAC Tubers) Following One Application of AGIL, France, 2006 STAPHYT Quena Plant Protection Study No: ChR-06-2018, Report No.: 90011990 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.10/01	C. Bastiani	2010	Magnitude of residue of propaquizafop and quizalofop-P-ethyl and metabolites in carrot Raw Agricultural Commodity after one or two application of AG-P6-100 EC or one application of AG-Q2-50 EC . 3 trials (1 HS & 2 DCS) . Northern Europe (Northern France), 2009 BIOTEK Agriculture Quena Plant Protection Study No.: BPL09/194/CL, Report No.: 90012486 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.10/02	C. H. Rouseel	2007	Magnitude of the Residues of Propaquizafop In Carrots (RAC Roots) Following One Application of AGIL, France, 2006 STAPHYT Quena Plant Protection	N	Quena Plant Protection N. V.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
			Study No.: ChR-06-2014, Report No.: 90011987 GLP, Published		
IIIA 8.3.10/03	J. M. Huaulme	2011	Magnitude of residue of quizalofop-P- ethyl, propaquizafop and and metabolites in carrot Raw Agricultural Commodity after one or two application of AG-Q2-50 EC or two applications of AG-P6-100 EC . 6 trials (2 DCS & 4 HS) . Northern Europe (France, Poland and Hungary), 2010 BIOTEK Agriculture Quena Plant Protection Study No.: BPL10/254/CL, Report No.: 90013517 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.17/02	C. Bousquet	2010	Magnitude of residue of propaquizafop and quizalofop-P-ethyl and metabolites in bulb onion Raw Agricultural Commodity after one application of AG-P6-100 EC or AG- Q2-50 EC . 2 trials (2 DCS) . Northern Europe (Poland), 2009 BIOTEK Agriculture Quena Plant Protection Study No.: BPL09/178/CL, Report No.: 90012472 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.17/03	C. Bousquet	2011	Magnitude of residue of propaquizafop and quizalofop-P-ethyl and metabolites in bulb onion Raw Agricultural Commodity after one application of AG-P6-100 EC or AG- Q2-50 EC . 2 trials (2 HS) . Northern Europe (France), 2010 BIOTEK Agriculture Quena Plant Protection Study No.: BPL10/249/CL, Report No.: 90013516 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.17/05	L. Schwager	1991	Propaquizafop, Onion DR. R. MAAG Ltd. Report No.: 6163-90068, Quena Plant Protection Report No.: 90003878	N	Quena Plant Protection N. V.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
			GLP, Published		
IIIA 8.3.17/06	E. Chevalier	2011	Magnitude of residue of propaquizafop and metabolites in bulb onion agrigultural commodity after one foliar application of AG-P6-100 EC (100 g/L propaquizafop) . 5 trials (3 harvest trials and 2 decline trials) . Northern Europe (France, United Kingdom) -2011 BIOTEK Agriculture Quena Plant Protection Study No.: BPL11/385/CL, Report No.: 90014477 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.24/01	L. Schwager	1991	Propaquizafop, Cabbage R. R. MAAG Ltd. Quena Plant Protection Report No.: 6163-90018, Report No.: 90003827 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.24/03	C. Bastiani	2010	Magnitude of residue of Propaquizafop and quizalofop-P-ethyl and metabolites in head cabbage Raw Agricultural Commodity after one or two applications of AG-P6-100 EC or after one application of AG-Q2-50- EC . 2 DCS . Northern Europe (Northern France and Germany), 2009 BIOTEK Agriculture Quena Plant Protection Study No.: BPL 09/176/CL, Report No.: 90012470 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.24/04	C. Bousquet	2011	Magnitude of residue of Propaquizafop and quizalofop-P-ethyl and metabolites in head cabbage Raw Agricultural Commodity after one or two applications of AG-P6-100 EC or one application of AG-Q2-50-EC . 6 trials (2 DCS + 4 HS) . Northern Europe (Northern France, Germany and Poland), 2010 BIOTEK Agriculture Quena Plant Protection Study No.: BPL 10/247/CL, Report No.: 90013515 GLP, Published	N	Quena Plant Protection N. V.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
IIIA 8.3.28/01	C. Bastiani	2010	Magnitude of residue of Propaquizafop and metabolites in freah peas with pods Raw Agricultural Commodity after one application of AG-P6-100 EC . 2 trials (1 HS + 1 DCS) . Northern Europe (The Netherlands & Germany), 2009 BIOTEK Agriculture Quena Plant Protection Study No.: BPL 09/186/CL, Report No.: 90012478 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.28/02	C. Bousquet	2011	Magnitude of residue of Propaquizafop and quizalofop-P-ethyl and metabolites in freah peas with pods Raw Agricultural Commodity after one application of AG-P6-100 EC or AG-Q2-50 EC . 2 trials (1 DCS + 1 HS) . Southern Europe (Spain and Southern France), 2010 BIOTEK Agriculture Quena Plant Protection Study No.: BPL 10/263/CL, Report No.: 90013523 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.32/01	L. Schwager	1991	Propaquizafop, Green beans DR. R. MAAG Ltd. Report No.: 6163-90023, Quena Plant Protection Report No.: 90003816 GLP, Unpublishe	N	Quena Plant Protection N. V.
IIIA 8.3.32/02	A. Perny	2004	Determination of Propaquizafop Residues In Spring Horse Bean Following Treatment with the Prepara-tion AGIL, Under Field Conditions in France in 2003 ANADIAG Report No.: RA3112, Quena Plant Protection Report No.: 90011533 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.32/03	R Heyer B. Lauterbach	1995 1994	Determination of Propaquizafop, Formulated as CGD 10280H (A- 8726D), AGIL, In/On Field Beans (Plant and Seed) RCC Ltd. Report 498003, Quena Plant Protection	N	Quena Plant Protection N. V.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
			Report No.: 9003810A GLP, Published Field Trial for Determination of Residue Levels in Broad Beans BIOCHEM Report 94 10 47 022, Quena Plant Protection Report No.: 9003810B GLP, Published		
IIIA 8.3.37/01	C. Bousquet	2010	Magnitude of residue of Propaquizafop and its metabolite in spring oil seed rape Raw Agricultural Commodity after one application of AG-P6-100 EC . 2 decline curve + 2 harvest trials . Northern Europe (Germany and The Netherlands) . 2009 BIOTEK Agriculture Quena Plant Protection Study No.: BPL09/195/GC, Report No.: 90012487 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.37/02	C. Bastiani	2010	Magnitude of residue of Propaquizafop and its metabolites in winter oil seed rape Raw Agricultural Commodity after one application of AG-P6-100 EC . 2 Decline curve trials - Northern Europe (Northern France) . 2009. BIOTEK Agriculture Quena Plant Protection Study No.: BPL09/192/GC, Report No.: 90012484 GLP, Published	N	Quena Plant Protection N. V.
IIIA 8.3.37/03	C. Bousquet	2011	Magnitude of residue of Propaquizafop and its metabolite in spring oil seed rape Raw Agricultural Commodity after one application of AG-P6-100 EC . 4 trials (2 DCS + 2 HS) . Northern Europe (Germany and The Netherlands) . 2010. BIOTEK Agriculture Quena Plant Protection Study No.: BPL10/238/GC, Report No.: 90013511 GLP, Published	N	Quena Plant Protection N. V.

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner
KCP 8.3.1.1	G. Rousseau	2013	Freezing storage stability study of residues of quizalofop in pea whole plant, pea dry seed, oil seed rape grain and grape (0, 6 and 12 months) Walloon Agricultural Research Centre, CRA-W GLP Unpublished	N	Sharda Cropchem Limited

The following tables are to be completed by MS.

List of data submitted by the applicant and not relied on

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner

List of data relied on and not submitted by the applicant but necessary for evaluation

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner

Data point	Author(s)	Year	Title Company Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Owner

Appendix 2 Detailed evaluation of the additional studies relied upon

A 2.1 Propaquizafop

A 2.1.1 Stability of residues

A 2.1.1.1 Stability of residues during storage of samples

A 2.1.1.1.1 Storage stability of residues in plant products

A 2.1.1.1.1.1 Study 1

Comments of zRMS:	Study is accepted

Reference:	KCP 8.3.1.1
Report	Freezing storage stability study of residues of quizalofop in pea whole plant, pea dry seed, oil seed rape grain and grape (0, 6 and 12 months), Gilles Rousseau, 2013, Report No.: 22853 (Project No.: SHARDA/RE22853/2013)
Guideline(s):	Yes Guidance for generating and reporting methods of analysis in support of pre-registration data requirements for Annex II (part A, Section 4) and Annex III (part A, Section 5) of Directive 91/414. Document SANCO 3029/99, 2000. Guidance document on residue analytical methods. Document SANCO 825/00, 2010
Deviations:	No
GLP:	Yes
Acceptability:	Yes

Materials and methods

Specificity
The analysis of untreated samples in comparison with the analysis of standard solutions and spiked samples showed the absence of compound interfering with the determination of quizalofop-ethyl and quizalofop (< 30 % LOQ). Moreover the relative intensities of the detected m/z ions in the spiked samples of pea whole plant, pea dry seed, oil seed rape grain and grape corresponds to those of the standard solutions at comparable concentrations.

Quizalofop-P-ethyl:
Parent ion = 373.08 amu
Cone voltage : 34 v
Quantification on ion m/z = 298.98 amu
Collision energy : 18 v
Confirmation on ion m/z = 90.96 amu
Collision energy : 32 v

Quizalofop-P:
Parent ion = 345.10 amu
Cone voltage : 36 v
Quantification on ion m/z = 298.94 amu
Collision energy : 20 v
Confirmation on ion m/z = 162.90 amu (T0) or 163.50 amu
Collision energy : 36 v

With these conditions the retention time of quizalofop-P-ethyl is about 1.52 minutes and the retention time of quizalofop-P is about 1.09 minutes.

Recovery
Recovery values were calculated by fortifying untreated samples (level I – 0.02 mg/kg, level II – 1.0 mg/kg) of pea whole plant, pea dry seed, oil seed rape grain and grape with known amounts of quizalofop-ethyl and quizalofop. The untreated specimens of pea whole plant, pea dry seed, oil seed rape grain, and grape were analysed prior to spiking and showed the absence of compound interfering with the determination of quizalofop-ethyl and quizalofop (< 30 % LOQ).
The results are expressed as total quizalofop [sum of quizalofop-ethyl, quizalofop and quizalofop conjugates, expressed as quizalofop (sum of isomers)]. The results for quizalofop-ethyl and quizalofop acid alone are only given for information.

Limit of Quantification
Limit of quantification for quizalofop-ethyl was LOQ = 0.01 mg/kg
Limit of quantification for quizalofop was LOQ = 0.01 mg/kg

Sample preparation
Chop the specimen of pea whole plant, pea dry seed and grape in a food cutter in order to obtain a reduced homogenised sample representative of the original specimen. Take analytical portions of 20 g and analyse immediately.

Extraction
- Weigh (to the nearest 0.01 g) 20 g of sample into a 100 mL extraction flask.
- For recoveries, spike the untreated sample with the appropriate standard solution.
- Add 60 mL acetone / water (80/20, v/v) solution.
- Extract at high speed in an Ultra Turrax blender for about 2 minutes.
- Hydrolyse with 1 mL or 5 mL (for grape) hydrochloric acid (pH < 1) to extract the quizalofop conjugates. Wait for 30 minutes with regular manual shaking and neutralise to pH 4-5 with ammonium hydroxide (5 N).
- Filter the extract by suction through a Büchner funnel containing a filter paper.
- Collect the filtrate into a 100 mL volumetric flask.
- Rinse the Ultra Turrax blender, the extraction flask and the filter cake with acetone / water (80/20, v/v) solution. Collect into the same 100 mL volumetric flask and fill up to volume with acetone / water (80/20, v/v) solution.

Cleanup by Solid Supported Liquid / Liquid Extraction (SSLLE) on a diatomaceous earth cartridge
- Apply 25 mL of the extract from 3.3.5.2 onto the cartridge.
- Let the extract penetrate into the cartridge for about 5 minutes.
- Elute quizalofop-P-ethyl with 7 x 20 mL dichloromethane or 8 x 20 mL hexane (for oil seed rape grain) and quizalofop-P with 8 x 20 mL ethyl acetate in two 300 mL conical flask.
- Combine the eluates and evaporate the solvent to nearly dryness using a rotary vacuum evaporator (bath temperature at about 40°C).

Standard solution preparation

About 25 mg of quizalofop-P-ethyl analytical standard are accurately weighed (to the nearest 0.1 mg) into a 50 mL volumetric flask. The flask is filled up to volume with methanol (= stock solution A).
About 25 mg of quizalofop-P analytical standard are accurately weighed (to the nearest 0.1 mg) into a 50 mL volumetric flask. The flask is filled up to volume with methanol (= stock solution B).

Standard solutions of mixed quizalofop-P-ethyl and quizalofop-P in methanol are prepared by serial dilution of the stock solutions to obtain the following concentrations: 50, 10, 5, 2, 1, 0.5, 0.2, 0.1, 0.05, 0.02 and 0.01 µg/mL. Several pea whole plant, pea dry seed, oil seed rape grain and grape matrices are prepared using untreated samples. Each of them is prepared according to the sample preparation described above excepted that the dry residue is re-dissolved in 2 mL of each of the standard solutions of quizalofop-ethyl and quizalofop in methanol. The mixed standard solutions from 0.01 µg/mL to 5 µg/mL in pea whole plant, pea dry seed, oil seed rape grain and grape matrix are used to form the calibration curves (matrix-matched calibration).
The standard solutions in methanol are stored in a fridge at a temperature below at 4°C. Under these conditions they are stable for at least 121 days.

Results and discussions

Table A 1: Summary of concurrent recoveries of Quizalofop

Matrix	Spike level (mg/kg)	Storage Interval (days)	Sample size (n)	Individual procedural recoveries (%)	Mean ± std dev
total quizalofop [sum of quizalofop-ethyl, quizalofop and quizalofop conjugates, expressed as quizalofop (sum of isomers)]					
Pea whole plant	0.9158	0	20 g	85	79
	0.8983			80	
	0.9109			72	
	0.9336			80	
	0.9061	174		77	76 - 3.8
	0.9158			78	
	0.9335			70	
	0.9253			78	
	0.9308	370		68	70 -11.4
	0.9354			67	
	0.8987			72	
	0.9158		20 g	72	
Pea dry seed	0.9327	0		76	79
	0.9114			87	
	0.9109			77	
	0.9336			75	
	0.9235	174		80	81 + 2.5
	0.9267			79	
	0.9026			84	
	0.9066			80	
	0.9327	371		66	70 – 11.4

Matrix	Spike level (mg/kg)	Storage Interval (days)	Sample size (n)	Individual procedural recoveries (%)	Mean ± std dev
	0.9158			67	
	0.9244			73	
	0.9267			76	
Oli seed rape grain	0.9313	0		74	88
	0.9364			92	
	0.9350			93	
	0.9281			91	
	0.9313	174		62	62 – 29.5
	0.9244			60	
	0.9336			62	
	0.9373			64	
	0.9368	380		63	70 – 20.5
	0.9378			78	
	0.9217			76	
	0.9267			61	
Grape	0.9341	0		108	100
	0.9378			98	
	0.9359			104	
	0.9373			91	
	0.9368	174		119	112 + 12.0
	0.9290			112	
	0.9239			92	
	0.9387			126	
	0.9235	378		79	92 – 8.0
	0.9285			88	
	0.8987			97	
	0.9364			105	

Conclusion

Regarding the residues of total quizalofop before and during the storage period, no degradation higher than 30 % of total quizalofop residues was observed in pea whole plant (-11.4%), pea dry seed (-11.4%), oil seed rape grain (-20.5%) and grape (-8.0%) after storage for 12 months at -18°C (≤ -15°C, ≥ -30°C). Total quizalofop residues are therefore stable in pea whole plant, pea dry seed, oil seed rape grain and grape for at least 12 months at -18°C (≤ -15°C, ≥ -30°C).

A 2.1.1.1.2 Storage stability of residues in animal products

A 2.1.2 Nature of residues in plants, livestock and processed commodities

A 2.1.2.1 Nature of residue in plants

A 2.1.2.1.1 Nature of residue in primary crops

A 2.1.2.1.2 Nature of residue in rotational crops

A 2.1.2.1.3 Nature of residues in processed commodities

A 2.1.2.2 Nature of residues in livestock

A 2.1.3 Magnitude of residues in plants

A 2.1.4 Magnitude of residues in processed commodities (Industrial Processing and/or Household Preparation)

A 2.1.4.1 Distribution of the residue in peel/pulp

A 2.1.4.2 Processing studies on a core set of representative processes

A 2.1.5 Magnitude of residues in representative succeeding crops

Appendix 3 Pesticide Residue Intake Model (PRIMo)

A 3.1 TMDI calculations

European Food Safety Authority
EFSA PRIMo revision 3.1; 2019/03/19

PROPAQUIZAFOP

LOQs (mg/kg) range from: 0,01 to: 0,05

Toxicological reference values

ADI (mg/kg bw/day):	0,015	ARfD (mg/kg bw):	not necessary
Source of ADI:	EFSA	Source of ARfD:	EFSA
Year of evaluation:	2008	Year of evaluation:	2008

Input values

Details - chronic risk assessment | Supplementary results - chronic risk assessment | Details - acute risk assessment/children | Details - acute risk assessment/adults

Comments:

Normal mode

Chronic risk assessment: JMPR methodology (IEDI/TMDI)

No of diets exceeding the ADI : ---

	Calculated exposure (% of ADI)	MS Diet	Expsoure (µg/kg bw per day)	Highest contributor to MS diet (in % of ADI)	Commodity / group of commodities	2nd contributor to MS diet (in % of ADI)	Commodity / group of commodities	3rd contributor to MS diet (in % of ADI)	Commodity / group of commodities	Exposure resulting from MRLs set at the LOQ (in % of ADI)	commodities not under assessment (in % of ADI)
TMDI/NEDI/IEDI calculation (based on average food consumption)	40%	NL toddler	5,99	13%	Rapeseeds/canola seeds	6%	Milk: Cattle	3%	Potatoes	4%	
	23%	NL child	3,40	6%	Rapeseeds/canola seeds	3%	Sugar beet roots	2%	Milk: Cattle	3%	
	21%	GEMS/Food G07	3,09	7%	Rapeseeds/canola seeds	3%	Potatoes	2%	Soyabeans	2%	
	19%	GEMS/Food G08	2,92	4%	Rapeseeds/canola seeds	3%	Soyabeans	3%	Sunflower seeds	2%	
	19%	GEMS/Food G15	2,80	3%	Head cabbages	3%	Sunflower seeds	3%	Rapeseeds/canola seeds	2%	
	18%	GEMS/Food G10	2,77	4%	Soyabeans	3%	Rapeseeds/canola seeds	2%	Potatoes	2%	
	17%	RO general	2,57	6%	Head cabbages	4%	Sunflower seeds	2%	Potatoes	1%	
	15%	GEMS/Food G11	2,22	5%	Soyabeans	3%	Potatoes	1,0%	Carrots	2%	
	13%	UK infant	1,98	4%	Milk: Cattle	2%	Potatoes	2%	Carrots	1%	
	13%	FR toddler 2 3 yr	1,93	3%	Milk: Cattle	2%	Beans (with pods)	1%	Potatoes	2%	
	13%	NL general	1,93	4%	Rapeseeds/canola seeds	2%	Potatoes	1%	Sugar beet roots	1%	
	13%	FR child 3 15 yr	1,93	2%	Milk: Cattle	1%	Sugar beet roots	1%	Sunflower seeds	2%	
	13%	DE child	1,89	2%	Milk: Cattle	2%	Potatoes	2%	Apples	4%	
	12%	GEMS/Food G06	1,78	2%	Soyabeans	1%	Potatoes	1%	Sunflower seeds	2%	
	12%	SE general	1,75	3%	Potatoes	3%	Head cabbages	1%	Milk: Cattle	2%	
	11%	UK toddler	1,62	2%	Potatoes	2%	Milk: Cattle	1%	Sugar beet roots	2%	
	10%	IE adult	1,56	2%	Potatoes	1%	Sunflower seeds	0,5%	Broccoli	2%	
	9%	PT general	1,39	4%	Potatoes	2%	Sunflower seeds	0,9%	Carrots	1%	
	9%	FR infant	1,29	2%	Milk: Cattle	1%	Carrots	1%	Potatoes	0,7%	
	9%	DE women 14-50 yr	1,29	2%	Sugar beet roots	1%	Milk: Cattle	0,7%	Potatoes	2%	
	8%	DE general	1,26	2%	Sugar beet roots	1%	Milk: Cattle	0,8%	Potatoes	2%	
	8%	ES child	1,23	1%	Milk: Cattle	1%	Potatoes	0,6%	Sunflower seeds	2%	
	8%	FI 3 yr	1,19	3%	Potatoes	1%	Carrots	1%	Rapeseeds/canola seeds	1%	
	8%	DK child	1,18	2%	Carrots	2%	Potatoes	1%	Milk: Cattle	2%	
	6%	FI 6 yr	0,94	3%	Potatoes	0,8%	Carrots	0,7%	Rapeseeds/canola seeds	0,8%	
	6%	LT adult	0,87	2%	Potatoes	2%	Head cabbages	0,4%	Milk: Cattle	0,8%	
	6%	PL general	0,86	2%	Potatoes	1%	Head cabbages	0,4%	Carrots	0,5%	
	6%	FR adult	0,85	0,6%	Sunflower seeds	0,5%	Potatoes	0,5%	Beans (with pods)	1%	
	6%	ES adult	0,83	0,7%	Lettuces	0,6%	Potatoes	0,5%	Sunflower seeds	1%	
	5%	UK vegetarian	0,73	0,9%	Potatoes	0,5%	Beans	0,4%	Head cabbages	0,8%	
	5%	FI adult	0,72	2%	Coffee beans	0,8%	Potatoes	0,4%	Carrots	2%	
	4%	UK adult	0,62	0,9%	Potatoes	0,3%	Milk: Cattle	0,3%	Beans	0,8%	
	4%	DK adult	0,61	0,8%	Potatoes	0,7%	Carrots	0,5%	Milk: Cattle	0,9%	
	4%	IT toddler	0,59	0,6%	Potatoes	0,5%	Tomatoes	0,4%	Wheat	1%	
	4%	IT adult	0,55	0,5%	Lettuces	0,4%	Potatoes	0,4%	Tomatoes	0,8%	
	2%	IE child	0,29	0,4%	Potatoes	0,4%	Milk: Cattle	0,2%	Carrots	0,4%	

Conclusion:
The estimated long-term dietary intake (TMDI/NEDI/IEDI) was below the ADI.
The long-term intake of residues of PROPAQUIZAFOP is unlikely to present a public health concern.

Appendix 4 Additional information provided by the applicant