European Commission

Combined Draft Renewal Assessment Report prepared according to Regulation (EC) N° 1107/2009
and
Proposal for Harmonised Classification and Labelling (CLH Report) according to Regulation (EC) N° 1272/2008

Glyphosate

Volume 3 – B.3 (PPP) – MON 52276

Rapporteur Member State: Assessment Group on Glyphosate (AGG) consisting of FR, HU, NL, SE

Version History

When	What
2021/06	Initial RAR

The RMS is the author of the Assessment Report. The Assessment Report is based on the validation by the RMS, and the verification during the EFSA peer-review process, of the information submitted by the Applicant in the dossier, including the Applicant's assessments provided in the summary dossier. As a consequence, data and information including assessments and conclusions, validated and verified by the RMS experts, may be taken from the applicant's (summary) dossier and included as such or adapted/modified by the RMS in the Assessment Report. For reasons of efficiency, the Assessment Report should include the information validated/verified by the RMS, without detailing which elements have been taken or modified from the Applicant's assessment. As the Applicant's summary dossier is published, the experts, interested parties, and the public may compare both documents for getting details on which elements of the Applicant's dossier have been validated/verified and which ones have been modified by the RMS. Nevertheless, the views and conclusions of the RMS should always be clearly and transparently reported; the conclusions from the applicant should be included as an Applicant's statement for every single study reported at study level; and the RMS should justify the final assessment for each endpoint in all cases, indicating in a clear way the Applicant's assessment and the RMS reasons for supporting or not the view of the Applicant.

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B.3. DATA ON APPLICATION AND EFFICACY

Assessment and conclusion by RMS:

The active substance of MON 52276 is specific in its mode of action as it offers systemic control of a broad spectrum of weed species and is effective at a range of growth stages and timings.
During recent years a series of new articles have been published discussing the benefits of glyphosate and comparing glyphosate use to alternative weed control methods, taking into account a possible withdrawal of the active substance. The applicant provided a comprehensive summary on this subject.
However, as these are general information related to the active substance, and not specific for the representative product, MON 52276, this information was not evaluated in this section.
Additionally, the asssessment of the social benefits using glyphosate compared to alternative weed control methods is not part of the assessment of applications for renewal of active substances under Regulation (EC) No. 1107/2009.
For the above reasons, the RMS didn't take into consideration these reports and neither included them in its Assessment Report. Only reports describing the applicability and effectiveness of glyphosate are presented below.

B.3.1. FIELD OF USE ENVISAGED

MON 52276 has registered uses as a non-selective broad spectrum herbicide in agricultural and horticultural crops and in orchards and vines. The uses in the representative GAP of this renewal dossier cover uses as pre-sowing and pre-planting in vegetables and sugar beet, post-harvest, pre-sowing and pre-planting in vegetables and sugar beet, post-emergence of weeds in orchards, vines, vegetables, railway tracks against emerged annual, biennial and perennial weeds as well as cereal volunteers (for post-harvest, pre-sowing, pre-planting). Moreover, uses as spot treatment against invasive species and in vegetables and sugar beet against couch grass are evaluated.

Assessment and conclusion by RMS:

The information provided by the applicant is considered acceptable with the following amendements.
MON 52276 is a water soluble concentrate containing 360 g/L glyphosate acid as isopropylamine salt.
Currently, MON 52276 has registered uses not only in agriculture, horticulture, orchards and vines, but also in forestry, amenity, weed control of non-cultivated areas, home and garden uses, amongst others. Full details of the supported representative uses in the AIR-5 renewal process are available in the GAP table (Table B.3.3-1).

Data point	EU data requirement No. 3.1/001
Report author	[redacted]
Report year	2020
Report title	Socio-economic value of glyphosate A review of EU studies assessing the value of glyphosate to the agriculture industry
Report No.	Not available
Document No.	Not available
Guidelines followed in study	Not applicable
Deviations from current test guideline	Not applicable
Previous evaluation	Not previously submitted
GLP/Officially recognised testing facilities	Not applicable

Acceptability/Reliability	Not assessed since data on socio-economic value is not part of the assessment under Regulation (EC) No 1107/2009.

One of the aims of the report of [redacted] (2020) was to review existing socio-economic analyses and studies that relate to the social, economic and environmental impacts of the withdrawal of glyphosate to EU agriculture and to provide some useful information about key uses of glyphosate in the EU:

Glyphosate is the most widely used herbicide in global agriculture (Steward Redqueen, 2017) and is used to treat agricultural areas against weeds, including both broadleaved and grass weeds that compete heavily with crops. Due to its non-selective nature, glyphosate is able to kill a wide range of plant species including both sensitive weed and crop species. Therefore, in arable crops its use is limited to the period between the harvest of one crop and planting of the next, whilst in vines and orchard crops it can be used around the base of the crop as long as it is not applied to photosynthetic parts of the crop, *i.e.*, foliage.

It is highly effective at controlling deep rooted perennial weeds with complex root systems like some of the rhizomatous grass species (e.g. *Elytrigia repens)*, as well as targeting a range of annual weed species including those that are resistant to other herbicidal modes of action. In many crop production situations, glyphosate is used as part of an integrated weed management programme that includes cultivation and post-planting selective herbicide usage, as well as rotation and timing of planting to minimise the weed burden within the crop and the carryover of weed seed from one crop to the next.

According to this review the key uses of glyphosate are the following:

Pre-planting or stubble management: Glyphosate is used after harvest of the previous crop and before the next crop is planted. It can be used in combination with cultivations or as the sole weed management measure prior to the planting of the following crop. The aim of this usage is to minimise the level of weeds present in the seed bed at the time the new crop is planted to minimise competition during the fragile crop establishment stage until crop canopy closure, after which the crop can compete effectively with the weeds.

Pre-emergence: There are some situations where glyphosate is applied in the narrow time window between the planting of crops (from seed) and the emergence of that crop.

Conservation tillage: Minimum tillage and zero tillage systems are becoming more popular as farmers attempt to preserve and increase soil health, promote biodiversity, and reduce input costs. These approaches use fewer shallower cultivations than conventional tillage methods and therefore rely heavily on the application of glyphosate to control weeds in the period between harvest and the next crop being planted. (Moss, 2017)

Orchard & Vines: Intra-row weeding is necessary in many orchard and vine crops. The inter-row (between) spaces can generally be managed with mowers and cultivations (depending upon the slope of the land), but these types of machinery can damage the base of trees and vines if used to control weeds that arise within the intra-row (within row) spaces. For this reason, applications of herbicides are favoured for intra-row weed control; with glyphosate having such a wide spectrum of activity, it is particularly useful in this situation. Many of the vine and orchard crops in parts of Europe are also grown on challenging terrain (steep, rocky, overly dry) which are accessible only with a knapsack sprayer, thus cultivations or thermal treatments are inappropriate alternatives.

In addition to the key uses identified above, one of the main reasons for the widespread use of glyphosate is its broad spectrum of activity and the relative lack of resistance to its mode of action in the EU. There is widespread resistance in key weed species, such as black grass (*Alopecurus myosuroides)*, to many of the more selective herbicide modes of action, leaving limited chemical control opportunities within the crop. Glyphosate has a unique mode of action and therefore is an important tool in the weed management toolbox for managing resistance across a range of weed species in EU.

Assessment and conclusion by RMS:

Evaluation of socio-economic value is not necessary for the assessment of applications for renewal of approval of active substances under Regulation (EC) No. 1107/2009. The report ([redacted], 2020) is therefore only partly presented herein with the aim of describing the uses of glyphosate.

For information on the applicability of glyphosate on railways see point B.3.4. of Volume 3 CA Section B3 of the RAR.

B.3.2. EFFECTS ON HARMFUL ORGANISMS

Glyphosate's mode of action is inhibition of an enzyme (5-enolpyruvylshikimate-3-phosphate synthase (EPSPS)) that is present only in plants, fungi, and some bacteria. EPSPS catalyzes the key step in the synthesis of aromatic amino acids, which ultimately are used in the synthesis of plant hormones and other plant proteins that are building blocks needed for growth and without which plants cannot survive. The best efficacy is achieved when the product is applied on well-developed foliage at an early development stage of the weed and (especially for perennial weeds) in a period of sugar translocation to the roots or other underground parts of the plant. Symptoms of herbicidal activity become pronounced 10-14 days after treatment.

Assessment and conclusion by RMS:

The information provided by the applicant is considered acceptable with the following amendements.
Glyphosate is a non-selective herbicidal active substance within the chemical class of glycines, without any soil residual activity. Additionally, EPSPS enzyme does not exist in animals.
Glyphosate is taken up by the leaves and other green parts of the plant and is translocated systemically (apoplastic and symplastic) in the whole plant, also in underground parts like roots, rhizomes or stolons.

Symptoms of the herbicidal activity are detailed below:

First signs of wilting occur in annual weeds 4 days and in perennial weeds 7 to 10 days after application of the herbicide. Leaf symptoms are usually detected 7 to 14 days after application, while a complete destruction of the plant takes up to 30 days. As light affects the metabolism via photosynthesis, a higher activity in plants means a better distribution of glyphosate and thus a greater herbicidal effect. Increasing temperatures result in increased biochemical activity and thus in an increased rate of efficacy. Optimum temperatures are 10 to 20 °C. High humidity affects the quality of the leaf surface and thus promotes the uptake of the herbicide.

B.3.3. DETAILS OF INTENDED USE

The GAP table covers uses as pre-sowing and pre-planting in vegetables and sugar beet, post-harvest, pre-sowing and pre-planting in vegetables and sugar beet, post-emergence of weeds in orchards, vines, vegetables, railway tracks against emerged annual, biennial and perennial weeds as well as cereal volunteers (for post-harvest, pre-sowing, pre-planting). Moreover, uses as spot treatment against invasive species and in vegetables and sugar beet against couch grass are evaluated.

Additional information on best (agricultural) practice for uses specifically mentioned in the GAP table can be found in supporting information that is provided in the Applicant's dossier (MCA Section 3).

To facilitate connection of the representative use GAPs with this supporting information, the following table provides details:

Assessment and conclusion by RMS:

The information provided by the applicant is considered acceptable.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
PRE-SOWING, PRE-PLANTING, PRE-EMERGENCE												
1a	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Emerged annual weeds, emerged perennial and biennial weeds BBCH > 13	Tractor mounted broadcast spray	Pre-sowing, Pre-planting, Pre-emergence of the crop	a) 1 b) 1	a) 4 L/ha b) 4 L/ha	a) 1.44 kg as/ha b) 1.44 kg as//ha	100 - 400	N/A	Also applicable to renovation / change of land use applications. Application to 100 % of the field. Use 75 % drift reducing nozzles. Maximum application rate of 1.44 kg as/ha glyphosate in any 12-month period.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
1b	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Emerged annual weeds, emerged perennial and biennial weeds (BBCH 13 – 21)	Tractor mounted broadcast spray	Pre-sowing, Pre-planting, Pre-emergence of the crop	a) 1 b) 1	a) 3 L/ha b) 3 L/ha	a) 1.08 kg as/ha b) 1.08 kg as//ha	100 - 400	N/A	Also applicable to renovation / change of land use applications. Application to 100 % of the field. Use 75 % drift reducing nozzles. Maximum application rate of 1.08 kg as/ha glyphosate in any 12-month period.

Table B.3.3-1: GAP table

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Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
1c	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Emerged annual weeds	Tractor mounted broadcast spray	Pre-sowing, Pre-planting, Pre-emergence of the crop	a) 1 b) 1	a) 2 L/ha b) 2 L/ha	a) 0.72 kg as/ha b) 0.72 kg as/ha	100 - 400	N/A	Also applicable to renovation / change of land use applications. Application to 100 % of the field. Use 75 % drift reducing nozzles. Maximum application rate of 0.72 kg as/ha glyphosate in any 12-month period.

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Applicant: **Zone(s):**	**GRG** **central, southern and northern**							**professional use** **non-professional use**	☒ ☐			
Verified by MS:	**y/n**											
1	2	3	4	5	6	7	8	10	11	12	13	14
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					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
POST-HARVEST, PRE-SOWING, PRE-PLANTING												
2a	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Emerged annual, perennial and biennial weeds	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	a) 1 - 2 (28 days) b) 1 - 2 (28 days)	a) 3 – 4 L/ha b) 6 L/ha	a) 1.08 – 1.44 kg as/ha b) 2.16 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of remaining crop / stubble and for control of actively growing weeds and mature annual weeds with hardened-off surface Application to 100% of the field. Use 75% drift reducing nozzles. Maximum application rate of 2.16 kg as/ha glyphosate in any 12-month period.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
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Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
2b	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Emerged annual, perennial and biennial weeds	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	a) 1 - 3 (28 days) b) 1 - 3 (28 days)	a) 2 – 3 L/ha b) 6 L/ha	a) 0.72 – 1.08 kg as/ha b) 2.16 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of remaining crop / stubble and for control of actively growing weeds. Application to 100´% of the field. Use 75 % drift reducing nozzles. Maximum application rate of 2.16 kg as/ha glyphosate in any 12-month period.

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Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
2c	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Emerged annual weeds	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	a) 1 - 3 (28 days) b) 1 - 3 (28 days)	a) 2 L/ha b) 6 L/ha	a) 0.72 kg as/ha b) 2.16 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of remaining crop / stubble and for control of actively growing annual weeds Application to 100 % of the field. Use 75 % drift reducing nozzles. Maximum application rate of 2.16 kg as/ha glyphosate in any 12-month period.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
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3a	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Cereal volunteers	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	a) 1 b) 1	a) 1.5 L/ha b) 1.5 L/ha	a) 0.54 kg as/ha b) 0.54 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of cereal volunteers. Maximum application rate of 0.54 kg as/ha glyphosate in any 12-month period.
3b	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Cereal volunteers	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	a) 1 b) 1	a) 1.5 L/ha b) 1.5 L/ha	a) 0.54 kg as/ha b) 0.54 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of cereal volunteers once every three years. Maximum application rate of 0.54 kg as/ha glyphosate in any 36-month-s period.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
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POST-EMERGENCE OF WEEDS												
4a	EU	Orchard crops (citrus, stone and pome fruits, kiwi, tree nuts, banana, and table olives)	F	Emerged annual, biennial and perennial weeds	Ground directed, shielded spray, band application	Post-emergence of weeds	a) 1 – 2 (28 days) b) 1 - 2 (28 days)	a) 3 – 4 L/ha b) 8 L/ha	a) 1.08 – 1.44 kg as/ha b) 2.88 kg as/ha	100 - 400	7	Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12-month period. Band application in the rows below the trees or as spot treatments. The treated area represents not more than 50 % of the total orchard area. The application rate with reference to the total orchard surface area is not more than 50 % of the stated dose rate.

Table B.3.3-1: GAP table

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1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
4b	EU	Orchard crops (citrus, stone and pome fruits, kiwi, tree nuts, banana, and table olives)	F	Emerged annual, biennial and perennial weeds	Ground directed, shielded spray, band application	Post-emergence of weeds	a) 1 – 3 (28 days) b) 1 – 3 (28 days)	a) 2 – 3 L/ha b) 8 L/ha	a) 0.72 – 1.08 kg as/ha b) 2.88 kg as/ha	100 - 400	7	Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12-month period. Band application in the rows below the trees or as spot treatments. The treated area represents not more than 50 % of the total orchard area. The application rate with reference to the total orchard surface area is not more than 50 % of the stated dose rate.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
4c	EU	Orchard crops (citrus, stone and pome fruits, kiwi, tree nuts, banana, and table olives)	F	Emerged annual weeds	Ground directed, shielded spray, band application	Post-emergence of weeds	a) 1 – 3 (28 days) b) 1 – 3 (28 days)	a) 2 L/ha b) 6 L/ha	a) 0.72 kg as/ha b) 2.16 kg as/ha	100 - 400	7	Avoid crop contamination during treatment. Maximum application rate of 2.16 kg as/ha treated area glyphosate in any 12-month period. Band application in the rows below the trees or as spot treatments. The treated area represents not more than 50 % of the total orchard area. The application rate with reference to the total orchard surface area is not more than 50 % of the stated dose rate.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
5a	EU	Vines (table and wine grape, leaves not intended for human consumption)	F	Emerged annual, biennial and perennial weeds	Ground directed, shielded spray, band application	Post-emergence of weeds	a) 1 – 2 (28 days) b) 1 – 2 (28 days)	a) 3 – 4 L/ha b) 8 L/ha	a) 1.08 - 1.44 kg as/ha b) 2.88 kg as/ha	100 - 400	7	Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12-month period. Band application in the rows below the vine stock or as spot treatments. The treated area represents not more than 50 % of the total vineyard area. The application rate with reference to the total vineyard surface area is not more than 50 % of the stated dose rate.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
5b	EU	Vines (table and wine grape, leaves not intended for human consumption)	F	Emerged annual, biennial and perennial weeds	Ground directed, shielded spray, band application	Post-emergence of weeds	a) 1 - 3 (28 days) b) 1 - 3 (28 days)	a) 2 - 3 L/ha b) 8 L/ha	a) 0.72 - 1.08 kg as/ha b) 2.88 kg as/ha	100 - 400	7	Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12-month period. Band application in the rows below the vine stock or as spot treatments. The treated area represents not more than 50 % of the total vineyard area. The application rate with reference to the total vineyard surface area is not more than 50 % of the stated dose rate.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
5c	EU	Vines (table and wine grape, leaves not intended for human consumption)	F	Emerged annual weeds	Ground directed, shielded spray, band application	Post-emergence of weeds	a) 1 – 3 (28 days) b) 1 – 3 (28 days)	a) 2 L/ha b) 6 L/ha	a) 0.72 kg as/ha b) 2.16 kg as/ha	100 - 400	7	Avoid crop contamination during treatment. Maximum application rate of 2.16 kg as/ha treated area glyphosate in any 12-month period. Band application in the rows below the vine stock or as spot treatments. The treated area represents not more than 50 % of the total vineyard area. The application rate with reference to the total vineyard surface area is not more than 50 % of the stated dose rate.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
6a	EU	Vegetables (Root and tuber vegetables Bulb vegetables, Fruiting vegetables Legume vegetables Leafy vegetables)	F	Emerged annual, biennial and perennial weeds	Inter-row application: ground directed, shielded spray	Crop BBCH < 20	a) 1 b) 1	a) 3 L/ha b) 3 L/ha	a) 1.08 kg as/ha b) 1.08 kg as/ha	100 - 400	60	Avoid crop contamination during treatment. Maximum application rate of 1.08 kg as/ha glyphosate in any 12-month period. Applications are performed between the crop rows. The rate refers to the treated area only, which represents not more than 50 % of the total area. The application rate with reference to the total surface area is not more than 50 % of the stated dose rate

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
6b	EU	Vegetables (Root and tuber vegetables Bulb vegetables, Fruiting vegetables Legume vegetables Leafy vegetables)	F	Emerged annual weeds	Inter-row application: ground directed, shielded spray	Crop BBCH < 20	a) 1 b) 1	a) 2 L/ha b) 2 L/ha	a) 0.72 kg as/ha b) 0.72 kg as/ha	100 - 400	60	Avoid crop contamination during treatment. Maximum application rate 0.72 kg as/ha glyphosate in any 12-month period. Applications are performed between the crop rows. The rate refers to the treated area only, which represents not more than 50 % of the total area. The application rate with reference to the total surface area is not more than 50 % of the stated dose rate

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
7a	EU	Railroad tracks	F	Emerged annual, biennial and perennial weeds	Ground directed, spray	Post-emergence of weeds	a) 2 (90 days) b) 2 (90 days)	a) 5 L/ha b) 10 L/ha	a) 1.8 kg as/ha b) 3.6 kg as/ha	100 - 400	N/A	Application by spray train Maximum application rate 3.6 kg as/ha glyphosate in any 12-month period.
7b	EU	Railroad tracks	F	Emerged annual, biennial and perennial weeds	Ground directed, spray	Post-emergence of weeds	a) 1 b) 1	a) 5 L/ha b) 5 L/ha	a) 1.8 kg as/ha b) 1.8 kg as/ha	100 - 400	N/A	Application by spray train Maximum application rate 1.8 kg as/ha glyphosate in any 12-month period.
8	EU	Invasive species in agricultural and non-agricultural areas	F	Giant hogweed (*Heracleum mantegazzianum*)	Spot treatment (shielded)	Post-emergence of invasive species	a) 1 b) 1	a) 5 L/ha b) 5 L/ha	a) 1.8 kg as/ha b) 1.8 kg as/ha	5 – 400	N/A	Maximum application rate 1.8 kg as/ha glyphosate in any 12-month period.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
9	EU	Invasive species in agricultural and non-agricultural areas	F	Japanese knotweed (*Reynoutria japonica*)	Spot treatment (shielded), cut stem: spray application	Late summer, early fall	a) 1 b) 1	a) 5 L/ha b) 5 L/ha	a) 1.8 kg as/ha b) 1.8 kg as/ha	5 – 400	N/A	Maximum application rate 1.8 kg as/ha glyphosate in any 12-month period.
10a	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Couch grass (*Elymus repens*)	Spot treatment (shielded)	Post-harvest, pre-sowing, pre-planting	a) 1 b) 1	a) 3 L/ha b) 3 L/ha	a) 1.08 kg as/ha b) 1.08 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of couch grass. Maximum application rate of 1.08 kg as/ha glyphosate in any 12-month period. The treated area represents not more than 20 % of the cropland.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
10b	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Couch grass (*Elymus repens*)	Spot treatment (shielded)	Post-harvest, pre-sowing, pre-planting	a) 1 b) 1	a) 2 L/ha b) 2 L/ha	a) 0.72 kg as/ha b) 0.72 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of couch grass. Maximum application rate of 0.72 kg as/ha glyphosate in any 12-month period. The treated area represents not more than 20 % of the cropland.

Table B.3.3-1: GAP table

PPP (product name/code) **active substance 1** **safener** **synergist**	**MON 52276** **glyphosate as isopropylammonium salt** **-** **-**	**Formulation type:** **Conc. of as 1:** **Conc. of safener:** **Conc. of synergist:**	**SL** **360 g/L (486 g/L isopropylammonium salt)** **-** **-**
Applicant: **Zone(s):**	**GRG** **central, southern and northern**	**professional use** **non-professional use**	☒ ☐
Verified by MS:	**y/n**		

1	2	3	4	5	6	7	8	10	11	12	13	14
Use-No.	**Member state(s)**	**Crop and/ or situation** **(crop destination / purpose of crop)**	**F G or I**	**Pests or Group of pests controlled** **(additionally: developmental stages of the pest or pest group)**	**Application**			**Application rate**			**PHI (days)**	**Remarks:** **e.g. safener/synergist per ha** **e.g. recommended or mandatory tank mixtures**
					Method / Kind	**Timing / Growth stage of crop & season**	**Max. number (min. interval between applications)** **a) per use** **b) per crop/ season**	**kg, L product/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**g, kg as/ha** **a) max. rate per appl.** **b) max. total rate per crop/season**	**Water L/ha** **min / max**		
10c	EU	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet	F	Couch grass (*Elymus repens*)	Spot treatment (shielded)	Post-harvest, pre-sowing, pre-planting	a) 1 b) 1	a) 2 L/ha b) 2 L/ha	a) 0.72 kg as/ha b) 0.72 kg as/ha	100 – 400	N/A	Application to existing row cropland after harvest for removal of couch grass once every three years. Maximum application rate of 0.72 kg as/ha glyphosate in any 36 months period. The treated area represents not more than 20 % of the cropland.

Remarks table heading:	(a)	e g wettable powder (WP), emulsifiable concentrate (EC), granule (GR)
	(b)	Catalogue of pesticide formulation types and international coding system CropLife International Technical Monograph n°2, 6th Edition Revised May 2008
	(c)	g/kg or g/l
	(d)	Select relevant
	(e)	Use number(s) in accordance with the list of all intended GAPs in Part B, Section 0 should be given in column 1
	(f)	No authorization possible for uses where the line is highlighted in grey, Use should be crossed out when the notifier no longer supports this use
Remarks columns:	1	Numeration necessary to allow references
	2	Use official codes/nomenclatures of EU Member States
	3	For crops, the EU and Codex classifications (both) should be used; when relevant, the use situation should be described (e g fumigation of a structure)
	4	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
	5	Scientific names and EPPO-Codes of target pests/diseases/ weeds or, when relevant, the common names of the pest groups (e g biting and sucking insects, soil born insects, foliar fungi, weeds) and the developmental stages of the pests and pest groups at the moment of application must be named
	6	Method, e g high volume spraying, low volume spraying, spreading, dusting, drench Kind, e g overall, broadcast, aerial spraying, row, individual plant, between the plants - type of equipment used must be indicated
	7	Growth stage at first and last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application
	8	The maximum number of application possible under practical conditions of use must be provided
	9	Minimum interval (in days) between applications of the same product
	10	For specific uses other specifications might be possible, e g : g/m³ in case of fumigation of empty rooms See also EPPO-Guideline PP 1/239 Dose expression for plant protection products
	11	The dimension (g, kg) must be clearly specified (Maximum) dose of as per treatment (usually g, kg or L product / ha)
	12	If water volume range depends on application equipments (e g ULVA or LVA) it should be mentioned under “application: method/kind”
	13	PHI - minimum pre-harvest interval
	14	Remarks may include: Extent of use/economic importance/restrictions

B.3.4. APPLICATION RATE AND CONCENTRATION OF THE ACTIVE SUBSTANCE

MON 52276 is a water soluble concentrate containing glyphosate acid as isopropylamine salt. The nominal concentration is 360 g glyphosate acid/L.

Assessment and conclusion by RMS:

According to the representative uses the application rate ranges from 0.54 to 1.8 kg as/ha. The application rate varies depending on the application type and time, the available weed species which are in the treated area, weed growth stages and the crops to be managed. Lower application rates, ranging from 0.54 to 0.72 kg as/ha, should be applied only against annual weeds, whilst higher application rates, ranging from 1.08 to 1.8 kg as/ha, is needed against perennial weeds.
The number of treatments ranges from 1 to 3 per year. The maximum application rate over a 12-months period is 3.6 kg as/ha.
The representative uses are summarized below:

- pre-sowing, pre-planting and pre-emergence in vegetables and sugar beet at rate of 2-4 l/ha;
- post-harvest, pre-sowing and pre-planting in vegetables and sugar beet at rate of 2-4 l/ha;
- post-emergence of weeds in orchards at rate of 2-4 l/ha with ground directed, shielded spray and band application;
- vines at rate of 2-4 l/ha with ground directed, shielded spray and band application;
- vegetables at rate of 2-3 l/ha, inter-row application with ground directed, shielded spray;
- railway tracks at rate of 5 l/ha against emerged annual, biennial and perennial weeds as well as cereal volunteers at rate of 1.5 l/ha (for post-harvest, pre-sowing, pre-planting);

Moreover, uses as spot treatment against invasive species (*Heracleum mantegazzianum* and *Fallopia japonica*) at rate of 5 l/ha and in vegetables and sugar beet against couch grass (*Elymus repens*) at rate of 2-3 l/ha are evaluated. In case of couch grass the treated area with the dose of 2-3 l/ha can not be more than 20 % of the cropland.

Full details of application rates for each reresentative use are available in the GAP table (Table B.3.3-1).

B.3.5. METHOD OF APPLICATION

In most applications MON 52276 is diluted in water and applied with tractor mounted or handheld spray equipment. A medium or coarse quality spray should be applied, using either a conventional hydraulic, air-assisted hydraulic or rotary atomizer sprayer. Where rotary atomizers are used, their droplet diameter must fall within the range of 200-300 microns.

The recommended application volumes in the joint representative GAP range from 100 – 400 L/ha.

In order to avoid foaming, top tank agitation should be avoided. The spray tank should be filled halfway with water and gentle agitation should be started (tractor-mounted sprayers). Subsequently the appropriate quantity of MON 52276 should be added. The tank can then be topped up with water to the required level. The addition of a de-foamer may be necessary.

It is essential to thoroughly clean out the entire sprayer system, using a recommended detergent cleaner, between applications of MON 52276 and other pesticides.

Assessment and conclusion by RMS:

The information provided by the applicant is considered acceptable with the following amendements.

In case of orchards, vines and vegetables for inter-row application the spray application must be ground directed and shielded.

B.3.6. NUMBER AND TIMING OF APPLICATIONS AND DURATION OF PROTECTION

Detailed information about number and timings of application are available in the GAP table.

One application at the recommended dose rate is sufficient to completely control the emerged weeds.

Maximum number of applications and their timings:
Uses defined as pre-planting of the crop can take place over a relative long period of time (any time after harvest of the previous crop and the planting of the next crop which covers uses in stubble as well as seedbed preparations). Therefore up to 3 applications (with a minimum application interval of 28 days) pre-planting of the crop are specified by the representative GAP.

In orchards and vines up to 3 applications throughout the growing season with a minimum application interval of 28 days are foreseen.

In vegetables one inter-row application is intended by the representative GAP.

On railroad tracks up to two applications (with a minimum application interval of 90 days) are specified by the representative GAP.

For treatments against invasive species and spot treatments in vegetables against couch grass one application is foreseen by the representative GAP.

Growth stages of crops or plants to be protected:
Uses defined as pre-planting of the crop can take place any time after harvest of the previous crop and the planting of the next crop. This use covers uses in stubble as well as seedbed preparations. The waiting period between the last application and the sowing or (trans-)planting of the succeeding crops is 3 days.

Weeds in orchards and vines can be treated throughout the growing season (inter-row or around the stem) provided the trees/vines are well developed (woody stems).

In vegetables an inter-row application should take place before BBCH 20. The spray application must be ground directed and shielded.

All other uses timings are not defined by the crop.

Development stages of the harmful organism concerned:
For most applications either annual, biennial or perennial weeds or combinations thereof may be present.
Although control may be achieved at various growth stages, control of annual weeds is easiest when applied to actively growing seedlings when there is sufficient leaf area for absorption. Biennial weeds are most susceptible to glyphosate in the seedling and rosette stages and perennial weeds are best sprayed in the autumn/late summer or at flowering when sap flow is reversed facilitating the transport of glyphosate to the roots of target weeds.

Duration of protection afforded by each application:

Since glyphosate has no residual (soil) activity, the application will only be effective against emerged weeds that were directly applied at the recommended dose rate. Weeds emerging after the application will therefore not be controlled.

Duration of protection afforded by the maximum number of applications:
The maximum number of applications specified in the representative GAP for each use will effectively control weeds throughout the crop cycle and will make sure that crops do not experience (1) competition from weeds for water, nutrients, space and light that could otherwise inhibit crop development and (2) the presence of weeds during harvest that could hinder harvest.

Assessment and conclusion by RMS:

The information provided by the applicant is considered acceptable with the following amendements.
For „Development stages of the harmful organism concerned":
In case of pre-sowing and pre-planting uses the product can be applied on weeds at higher, 4.0 L/ha rate from the 3 leaf stage on, whilst at the lower 3.0 l/ha rate only at narrower growth stages, from the 3 leaf stage up until BBCH 21.

B.3.7. NECESSARY WAITING PERIODS OR OTHER PRECAUTIONS TO AVOID PHYTOTOXIC EFFECTS ON SUCCEEDING CROPS

Minimum waiting periods or other precautions between last application and sowing or planting succeeding crops:

- At least 3 days for applications pre-planting for crops that are transplanted
- At least 3 days before drilling of seeded crops
- If application occurs after sowing (seeded crops) a 3 day waiting period also applies

Limitations on choice of succeeding crops:
No limitations

Assessment and conclusion by RMS:

The information provided by the applicant is considered acceptable with the following amendements according to the previous assessment (see B.3.2.8. of Volume 3 CA-CP Section B.3 of the RAR) (DE; 2015)
In the normal crop rotation no effects are expected on any succeeding crops. Glyphosate is an organic phosphorus compound with no soil residual activity. In soil, glyphosate will be adsorbed quickly onto soil particles and inactivated. The major metabolite in soil is aminomethylphosphonic acid (AMPA).

Additionally, the risk of crop damage using glyphosate in direct drilling systems should be considered at product authorisation level. It is recommended that, to avoid phytotoxic effects on crops in pre-emergence uses, seeds must be totally covered with soil. If the herbicide comes into contact with seeds during application, germination and plant growth are affected negatively.
The applicant stated a strict statement:" If application occurs after sowing (seeded crops) a 3 day waiting period also applies." This is considered acceptable.

B.3.8. PROPOSED INSTRUCTIONS FOR USE

Please refer to Document C, Existing or proposed labels (Doc ID: 110054-B-GRG_Jun_2020).

Assessment and conclusion by RMS:

The representative formulation is widely registered in the EU. Existing labels were provided as example for the product with the following trade names, registered in the three zones:
Roundup Bioflow – Italy
Roundup Evolution – Netherland
Roundup Ultra – Sweden

B.3.9. EFFECTIVENESS

For the renewal of an active substance no efficacy summary document is required according to the Guidance document for applicants for the preparation of renewal dossiers (SANCO/10181/2013) and has not been provided.
Glyphosate controls important annual dicotyledonous species, for example *Chenopodium album*, biennial species such as *Cirsium vulgare* and perennial dicotyledonous weeds such as *Cirsium arvense* and *Rubus* spp. In addition, glyphosate controls annual monocotyledonous species such as *Alopecurus myosuroides* and perennial monocotyledonous weeds including *Sorghum halepense* and *Elymus repens*. Glyphosate is also used to control invasive plants that have been introduced in Europe such as *Fallopia japonica* and *Heracleum mantegazzianum*.
The applicant provided some information about effectiveness of glyphosate against some hard to be controlled and invasive weeds. See point B.3.5. of Volume 3 CA Section B.3 of the RAR.

B.3.10. INFORMATION ON THE DEVELOPMENT OF RESISTANCE

See point B.3.7. of Volume 3 CA Section B.3 of the RAR.

B.3.11. ADVERSE EFFECTS ON TREATED CROPS

No information provided by the applicant. The assessment presented here is based on the registrations of glyphosate containing products.

In case of most representative uses there are no crops on the treated area.

Uses defined as pre-planting of the crop can take place any time after harvest of the previous crop and the planting of the next crop. This use covers uses on stubble, as well as on seedbed preparations. The waiting period between the last application and the sowing or (trans-)planting of the succeeding crops is 3 days (see B.3.7). If the instructions are kept no crop damage is expected to occur.

Weeds in orchards and vines can be treated throughout the growing season (inter-row or around the stem) provided that the trees or vines are well developed (woody stems). During application care must be taken not to spray the green parts of the crops (shoots, leaves) as they could be damaged by the product. The active substance can also damage saplings younger than 2-3 years which have no lignified trunk, therefore it is recommended not to use the product in new plantations younger than 2-3 years.

In vegetables an inter-row application should take place before BBCH 20. The spray application must be ground directed and shielded. If the instructions are kept no crop damage is expected to occur.

B.3.12. OBSERVATIONS ON OTHER UNDESIRABLE OR UNINTENDED SIDE-EFFECTS

No information provided by the applicant.

B.3.13. REFERENCES RELIED ON

See B.3.8 of Volume 3CA Section B-3 of the RAR.