European Commission

Draft (Renewal) Assessment Report prepared according to the Commission Regulation (EU) N° 1107/2009

FENOXAPROP-P-ETHYL

Volume 3 – B.3 (PPP) – CHA 4960

Rapporter Member State: Austria
Co-Rapporter Member State: Finland

Version History

When	What
2005/April	Initial DAR of the active substance. CHA 4960 was not the representative formulation
2018/January	DRAR

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B.3. DATA ON APPLICATION AND EFFICACY

B.3.1. FIELD OF USE ENVISAGED

The registered plant protection product CHA 4960 (Fenoxaprop-P-ethyl 69 g/L EW) is used in agriculture as post-emergence, foliar-acting herbicide for control of *Avena fatua*, *Apera spica-venti*, *Alopecucus myosuroides*, *Phalaris paradoxa*, and *Poa trivialis* in cereals.

B.3.2. EFFECTS ON HARMFUL ORGANISMS

The active ingredient fenoxaprop-P-ethyl is primarily absorbed through the leaves of plants and is translocated in the xylem and phloem and causes cell division at the point of growth. The first visible symptoms occur 2-3 days after treatment when growth slows or stops. Chlorosis occurs in young tissues, spreads throughout the plant. The plants become necrotic and die back. Death follows within approximately 2-4 weeks of treatment.

B.3.3. DETAILS OF INTENDED USE

CHA 4960 is used as an herbicide against grass weed species for post-emergence use in winter and spring wheat, winter rye, triticale and winter and spring barley.

Details of the intended uses are given in the following table. For further information please refer to Documents D1 and D2.

Crop and/or situation (a)	Zone	Product code	F G or I (b)	Pests or Group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks: (m)
					Type (d-f)	Conc. of as (i)	Method kind (f-h)	Growth stage & season (j)	Number min max (k)	Interval between applica-tions (min)	kg as/hL min max	water L/ha min max	kg as/ha min max		
wheat (s+w), durum wheat (S+W) rye, triticale	Europe	CHA 4960	F	Monocotyledonous weeds		69g/L	Ground-boom sprayer	BBCH 11-39 (autumn or spring)	1	-	1) 0.010 - 0.083 (2) 0.0053 - 0.041	100 - 400	(1) 0.041 - 0.083 (2) 0.021 - 0.041	F*	Dose rate: **max. 1.2 L product/ha**
barley (s+w)	Europe	CHA 4960	F	Monocotyledonous weeds		69g/L	Ground-boom sprayer	BBCH 11-32 (autumn or spring)	1	-	(1) 0.010 - 0.069 (2) 0.0053 - 0.035	100 - 400	(1) 0.041 - 0.069 (2) 0.021 - 0.035	F*	Dose rate: **max. 1.0 L product/ha**

(1) fenoxaprop-P-ethyl 69 g/L
(2) cloquintocet-mexyl 34,5 g/L
F*: PHI is covered by the normal vegetation period between last application and harvest

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

CHA 4960 is applied once per season. The concentration of the active substance in the formulation is 69 g/L.

B.3.5. METHOD OF APPLICATION

Tractor mounted spray equipment. More detailed information on the applications intended for the formulation can be found in the proposed labels of Document C.

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

Maximum number of applications and their timings:

One application per season between spring and autumn.

Growth stages of crops or plants to be protected:

Crop	Growth stage (BBCH)
Winter wheat, Spring wheat, Winter durum wheat, Spring durum wheat,	11-39
Rye	11-39
Triticale	11-39
Winter barley, Spring barley	11-32

Development stages of the harmful organism concerned:
Fenoxaprop-P-ethyl is taken up rapidly by the plants via the leaves and transported to the site of action. To ensure effective uptake, target weeds must therefore have full emergence. As active plant growth and warm temperatures encourages active transport within the phloem and passive movement in the xylem, weeds growing well will be more effectively controlled.

Duration of protection afforded by each application:
CHA 4960 does neither have residual effects on weeds which emerge after the treatment nor does the product affect seed germination of weeds. However, being fully systemic, the active ingredient is translocated throughout the target plants.

Duration of protection afforded by the maximum number of applications:
Only one application per season is necessary.

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:
As the product is applied as a single application of an early post emergence herbicide on cereals, there is no necessary waiting period between the application and the planting of succeeding crops. Also there is no restriction on the choice of following crop type.

Limitations on choice of succeeding crops:
As the product is applied as a single application of an early post emergence herbicide on cereals, there is no necessary waiting period between the application and the planting of succeeding crops. Also there is no restriction on the choice of following crop type.

B.3.8. PROPOSED INSTRUCTIONS FOR USE

For information on instructions for use please refer to the proposed and authorized uses on the labels in Document C.

B.3.9. EFFECTIVENESS

No data were provided by the applicant.

A summary table of achieved control (efficacy % against targets representative of proposed uses at the proposed dose), as required according to SANCO/10054/2013-rev.3, 11 July 2013 (Appendix I) is not available.

B.3.10. INFORMATION ON THE DEVELOPMENT OF RESISTANCE

No data were submitted by the applicant according to SANCO/10054/2013-rev.3, 11 July 2013 (Appendix I).

Following resistance overview was provided by the RMS Austria:

Inherent risk-related to the active substance

In Europe, 34 resistance cases are reported to be resistant against Fenoxaprop-P-ethyl. These weed species are listed in the following table below (www.weedscience.com, 03-04-2017). The inherent risk related to the active substance Fenoxaprop-p-ethyl is considered high.

1	2009	*Avena sterilis*	Greece	ACCase inhibitors (A/1)	clodinafop-propargyl, diclofop-methyl, fenoxaprop-P-ethyl, pinoxaden, tralkoxydim
2	2009	*Avena fatua*	Germany	ACCase inhibitors (A/1), ALS inhibitors (B/2)	cycloxydim, fenoxaprop-P-ethyl, flupyrsulfuron-methyl-sodium, mesosulfuron-methyl, pinoxaden
3	2011	*Avena fatua*	Poland	ACCase inhibitors (A/1), ALS inhibitors (B/2)	fenoxaprop-P-ethyl, iodosulfuron-methyl-sodium, metsulfuron-methyl, pinoxaden, propoxycarbazone-sodium, sulfometuron-methyl
4	1994	*Avena fatua*	United Kingdom	ACCase inhibitors (A/1), ALS inhibitors (B/2), Antimicrotubule mitotic disrupter (Z/25)	fenoxaprop-P-ethyl, flamprop-M-isopropyl, fluazifop-P-butyl, imazamethabenz-methyl, mesosulfuron-methyl, pinoxaden, pyroxsulam, tralkoxydim
5	1999	*Alopecurus myosuroides*	Netherlands	ACCase inhibitors (A/1), ALS inhibitors (B/2)	clodinafop-propargyl, cycloxydim, fenoxaprop-P-ethyl, penoxsulam

6	1983	*Alopecurus myosuroides*	Germany	ACCase inhibitors (A/1), PSII inhibitor (Ureas and amides) (C2/7)	chlorotoluron, fenoxaprop-P-ethyl, isoproturon
7	1996	*Alopecurus myosuroides*	Belgium	ACCase inhibitors (A/1)	clodinafop-propargyl, fenoxaprop-P-ethyl
8	1993	*Alopecurus myosuroides*	France	ACCase inhibitors (A/1)	clodinafop-propargyl, cycloxydim, diclofop-methyl, fenoxaprop-P-ethyl, haloxyfop-P-methyl, sethoxydim
9	1996	*Avena sterilis ssp. ludoviciana*	France	ACCase inhibitors (A/1)	fenoxaprop-P-ethyl
10	1996	*Avena fatua*	France	ACCase inhibitors (A/1)	fenoxaprop-P-ethyl
11	1996	*Avena fatua*	Belgium	ACCase inhibitors (A/1)	clodinafop-propargyl, fenoxaprop-P-ethyl
12	1996	*Alopecurus myosuroides*	Belgium	ACCase inhibitors (A/1), ALS inhibitors (B/2), Microtubule inhibitors (K1/3), Photosystem II inhibitors (C1/5), PSII inhibitor (Ureas and amides) (C2/7)	atrazine, chlorotoluron, clodinafop-propargyl, fenoxaprop-P-ethyl, flupyrsulfuron-methyl-sodium, pendimethalin, propaquizafop
13	1996	*Alopecurus myosuroides*	Netherlands	ACCase inhibitors (A/1), PSII inhibitor (Ureas and amides) (C2/7)	chlorotoluron, clodinafop-propargyl, fenoxaprop-P-ethyl, isoproturon
14	1997	*Avena sterilis*	Turkey	ACCase inhibitors (A/1)	clodinafop-propargyl, diclofop-methyl, fenoxaprop-P-ethyl, tralkoxydim
15	2003	*Alopecurus myosuroides*	Germany	ACCase inhibitors (A/1)	clethodim, cycloxydim, fenoxaprop-P-ethyl, fluazifop-P-butyl
16	2011	*Alopecurus myosuroides*	Sweden	ACCase inhibitors (A/1)	clodinafop-propargyl, cycloxydim, fenoxaprop-P-ethyl
17	2007	*Alopecurus myosuroides*	Germany	ACCase inhibitors (A/1), ALS inhibitors (B/2), Long chain fatty acid inhibitors (K3/15), PSII inhibitor (Ureas and amides) (C2/7)	chlorotoluron, fenoxaprop-P-ethyl, flufenacet, isoproturon, mesosulfuron-methyl, pinoxaden
18	2010	*Apera spica-venti*	Poland	ACCase inhibitors (A/1)	fenoxaprop-P-ethyl, pinoxaden
19	2009	*Apera spica-venti*	Germany	ACCase inhibitors (A/1), ALS inhibitors (B/2), PSII inhibitor (Ureas and amides) (C2/7)	fenoxaprop-P-ethyl, iodosulfuron-methyl-sodium, isoproturon, mesosulfuron-methyl, pinoxaden, pyroxsulam, sulfosulfuron
20	2009	*Alopecurus myosuroides*	Germany	ACCase inhibitors (A/1), ALS inhibitors (B/2)	cycloxydim, fenoxaprop-P-ethyl, flupyrsulfuron-methyl-sodium, mesosulfuron-methyl, pinoxaden
21	2011	*Avena fatua*	Turkey	ACCase inhibitors (A/1)	diclofop-methyl, fenoxaprop-P-ethyl, tralkoxydim
22	2012	*Avena fatua*	Germany	ACCase inhibitors (A/1)	clodinafop-propargyl, fenoxaprop-P-ethyl, pinoxaden

23	2001	*Alopecurus myosuroides*	Denmark	ACCase inhibitors (A/1), ALS inhibitors (B/2)	clodinafop-propargyl, fenoxaprop-P-ethyl, flupyrsulfuron-methyl-sodium
24	2009	*Alopecurus myosuroides*	Italy	ACCase inhibitors (A/1)	clodinafop-propargyl, fenoxaprop-P-ethyl, pinoxaden
25	1982	*Alopecurus myosuroides*	United Kingdom	ACCase inhibitors (A/1)	clethodim, clodinafop-propargyl, cycloxydim, diclofop-methyl, fenoxaprop-P-ethyl, fluazifop-P-butyl, pinoxaden, quizalofop-P-ethyl, sethoxydim
					clodinafop-propargyl, fenoxaprop-P-ethyl
26	2014	*Alopecurus myosuroides*	Sweden	ACCase inhibitors (A/1), ALS inhibitors (B/2)	cycloxydim, fenoxaprop-P-ethyl, flupyrsulfuron-methyl-sodium, iodosulfuron-methyl-sodium, mesosulfuron-methyl, pyroxsulam
27	2011	*Alopecurus myosuroides*	Sweden	ACCase inhibitors (A/1), ALS inhibitors (B/2), Lipid Inhibitors (N/8)	fenoxaprop-P-ethyl, flupyrsulfuron-methyl-sodium, prosulfocarb, pyroxsulam
28	2011	*Alopecurus myosuroides*	Poland	ACCase inhibitors (A/1)	fenoxaprop-P-ethyl, pinoxaden
29	1993	*Avena sterilis*	United Kingdom	ACCase inhibitors (A/1), ALS inhibitors (B/2), Antimicrotubule mitotic disrupter (Z/25)	fenoxaprop-P-ethyl, flamprop-methyl, fluazifop-P-butyl, imazamethabenz-methyl, iodosulfuron-methyl-sodium, mesosulfuron-methyl, tralkoxydim
30	2001	*Alopecurus myosuroides*	Denmark	ACCase inhibitors (A/1)	fenoxaprop-P-ethyl
31	2004	*Phalaris minor*	Iran	ACCase inhibitors (A/1)	clodinafop-propargyl, diclofop-methyl, fenoxaprop-P-ethyl, pinoxaden, tralkoxydim
32	2011	*Avena fatua*	Poland	ACCase inhibitors (A/1)	fenoxaprop-P-ethyl, pinoxaden
33	2011	*Apera spica-venti*	Poland	ACCase inhibitors (A/1), ALS inhibitors (B/2)	chlorsulfuron, fenoxaprop-P-ethyl, pinoxaden, sulfometuron-methyl, sulfosulfuron
34	2012	*Alopecurus myosuroides*	Poland	ACCase inhibitors (A/1), ALS inhibitors (B/2)	fenoxaprop-P-ethyl, iodosulfuron-methyl-sodium, mesosulfuron-methyl, pinoxaden, sulfometuron-methyl

Table was provided by the RMS Austria.

Inherent risk of target weeds to develop resistance to herbicides

Major target weeds of winter and spring cereals are *Apera spica venti*, *Alopecurus myosuroides*, *Poa annua*, *Bromus* species for winter cereals and especially *Avena fatua* in spring cereals. Following confirmed resistance cases (resistance to Fenoxaprop-p-ethyl) were observed in Europe: *Apera spica venti* (3 cases), *Alopecurus myosuroides* (18 cases), *Poa annua* and *Bromus specis* (0 cases), *Avena fatua* (8 cases).
The inherent risk related to target weeds is considered high.

B.3.11. ADVERSE EFFECTS ON TREATED CROPS

No data were provided by the applicant.

A summary of crop safety (x specific crop safety trials with N doses and 2N doses, maximum % phytotoxicity), as required according to SANCO/10054/2013-rev.3, 11 July 2013 (Appendix I) is not available.

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

No data were provided.

According to SANCO/10054/2013-rev.3, 11 July 2013 (Appendix I), a brief summary of any testing on impacts on succeeding or adjacent crops should be available for Fenoxaprop-P-ethyl.

Comment RMS:	Data provided in chapter B.3.1.-B.3.8. are considered acceptable. According to the guidance document SANCO/10054/2013-rev.3, 11 July 2013 (Appendix I), chapter B.3.9., B.3.10, B.3.11. and B.3.12. should also be addressed in Volume 3-B.3 (PPP). Currently, no data are available. (The RMS is aware of the fact that SANCO/10054/2013-rev.3, 11 July 2013 (Appendix I) only refers to the approval of new active substances. For renewals (that is the case of Fenoxaprop-p-ethyl), SANCO/2012/11251-rev.4, December 2014, is the currently valid document. In this version, Appendix II was deleted, obviously by accident, because the older version, SANCO/2012/11251-rev.1.2 of July 2012, has had Appendix II. Appendix II refers to efficacy requirements. Therefore, the RMS recommended using SANCO/10054/2013-rev.3, 11 July 2013 (Appendix I), even though it was originally intended for new active substance.)

B.3.13. REFERENCES RELIED ON

Data Point	Author(s)	Year	Title Compagny Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data protection claimed Y/N	Justification if data protection is claimed	Owner	Previous evaluation