Renewal Assessment Report

beta-cyfluthrin

Bulldock EC 25

Volume 3 – B.3 Data on application and efficacy

07 March 2017

Rapporteur Member State: Germany

Co-Rapporteur Member State: Hungary

Version history

When	What

Table of contents

B.3 Data on application and Efficacy

B.3.1 Field of use envisaged

Products containing beta-cyfluthrin are used on a large spectrum of crops including arable and orchard crops. For the approval renewal of beta-cyfluthrin, the following representative uses were selected for the representative formulation MCW-5976 (Bulldock EC 25) used as a foliar spray in potato (field use), wheat (field use) and tomato (greenhouse use).

B.3.2 Effects on harmful organisms

The active ingredient beta-cyfluthrin belongs to the group of pyrethroids. It is a widely-known non-systemic insecticide which has a low vapour pressure and water solubility. Beta-cyfluthrin is known as a sodium channel modulator on the nervous system. It is a non-systemic insecticide that is absorbed through the skin and stomach and acts with rapid knockdown and long residual activity. Beta-cyfluthrin is effective against a wide range of foliar pests including species of Coleoptera, Diptera, Heteroptera, Aleyrodina, Homoptera, Lepidoptera and Orthoptera.

B.3.3 Details of intended use

Table B.3.3-1: GAP table - Summary of representative uses evaluated, for which all risk assessments needed to be completed (see Volume 1)

List of representative uses evaluated – Bulldock EC 25

GAP rev., date: XX

PPP (product name/code)	**Bulldock EC 25**	**Formulation type:**	**EC**
active substance 1	**beta-cyfluthrin**	**Conc. of as 1:**	**25 g/L**
safener	n.a.	**Conc. of safener:**	**n.a.**
synergist	**n.a.**	**Conc. of synergist:**	**n.a.**
Applicant:	**ADAMA**	**professional use**	☒
Zone(s):	**North, Central, South**	**non professional use**	☐

Verified by MS: **j**

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 as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
1	North-Zone, Central Zone	Potato	F	Sucking and biting insects	Foliar spray	10-49	2 (14 days)	a) 0.3 L/ha b) 0.6 L/ha	a) 7.5 g as/ha b) 15 g as/ha	150 - 300	3	
2	South Zone	Potato	F	Sucking and biting insects	Foliar spray	10-49	2 (14 days)	a) 0.5 L/ha b) 1 L/ha	a) 12.5 g as/ha b) 25 g as/ha	300 - 1000	3	

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 as/ha a) max. rate per appl. b) max. total rate per crop/season	Water L/ha min / max		
3	North-Zone, Central Zone	Wheat	F	Sucking and biting insects	Foliar spray	Winter cereals BBCH 11-29 (autumn) BBCH 49-75 (spring) Spring cereals BBCH 10-75	2 (14 days)	a) 0.3 L/ha b) 0.6 L/ha	a) 7.5 g as/ha b) 15 g as/ha	150 - 400	21	
4	South Zone	Wheat	F	Sucking and biting insects	Foliar spray	Winter cereals BBCH 11-29 (autumn) BBCH 49-75 (spring) Spring cereals BBCH 10-75	2 (14 days)	a) 0.5 L/ha b) 1 L/ha	a) 12.5 g as/ha b) 25 g as/ha	150 - 400	21	
5	EU	Tomato	G	Sucking and biting insects	Foliar spray	all BBCH up to PHI	2 (14 days)	a) 0.7 L/ha b) 1.4 L/ha	a) 17.5 g as/ha b) 35 g as/ha	500 - 1000	3	

Remarks:

(1) Numeration of uses in accordance with the application/as verified by MS
(2) Member State(s) or zone for which use is applied for
(3) For crops, the EU and Codex classifications (both) should be used; where relevant, the use situation should be described (*e.g.* fumigation of a structure)
(4) Outdoor or field use (F), glasshouse application (G) or indoor application (I)
(5) e.g. biting and suckling insects, soil born insects, foliar fungi, weeds, developmental stages
(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 of treatment(s) (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 applications possible under practical conditions of use for each single application and per year (permanent crops) or crop (annual crops) must be provided
(8) Min. interval between applications (days) were relevant
(10) The application rate of the product a) max. rate per appl. and b) max. total rate per crop/season must be given in metric units (e.g. kg or L product / ha)
(11) The application rate of the active substance a) max. rate per appl. and b) max. total rate per crop/season must be given in metric units (e.g. g or kg / ha)
(12) The range (min/max) of water volume under practical conditions of use must be given (L/ha)
(13) PHI - minimum pre-harvest interval
(14) Remarks may include: Extent of use/economic importance/restrictions/minor use etc.

B.3.4 Application rate and concentration of the active substance

In potato and wheat in the field Bulldock EC 25 is applied at maximum 2 times at a rate of 0.5 L product/ha (12.5 g beta-cyfluthrin/ha).
In tomato in the greenhouse Bulldock EC 25 is applied at maximum 2 times at a rate of 0.7 L product/ha (17.5 g beta-cyfluthrin/ha).

B.3.5 Method of application

In the field Bulldock EC 25 is applied as a foliar spray, using tractor-mounted or trailed field boom sprayers. For tomato in the greenhouse several different devices like portable sprayers, field crop sprayers or air-assisted sprayers may be used as the growing system and the types of greenhouse used are extremely variable throughout Europe.

B.3.6 Number and timing of applications and duration of protection

In potato Bulldock EC 25 is applied at maximum 2 times between BBCH 10 and BBCH 49, at a minimum interval of 14 days.
In winter wheat Bulldock EC 25 is applied at maximum 2 times between BBCH 11 and BBCH 29 (autumn applications), between BBCH 49 and BBCH 75 (spring applications), at a minimum interval of 14 days.
In spring wheat Bulldock EC 25 is applied at maximum 2 times between BBCH 10 and BBCH 75, at a minimum interval of 14 days.
In tomato Bulldock EC 25 is applied at maximum 2 times between BBCH 9 up to the PHI (pre-harvest interval, 3 days), at a minimum interval of 14 days.
From the years of use in agricultural practice the duration of protection is known to be sufficient.

B.3.7 Necessary waiting periods or other precautions to avoid phytotoxic effects on succeeding crops

No phytotoxic effects neither on treated nor on succeeding or neighbouring crops have to be expected for the active ingredient beta-cyfluthrin at the dose rates applied for. Therefore no waiting periods or other precautions to avoid phytotoxic effects on succeeding crops need to be established. There are no limitations on the choice of succeeding crops after the full growing period or after a shortened growing period due to a crop failure.

B.3.8 Proposed instructions for use

For the use instructions it should be referred to the labels given for existing products.

B.3.9 Effectiveness

Results of efficacy tests carried out for the registration in different European countries and several years of farmers use of beta- cyfluthrin gave proof of sufficient efficacy on a large number of biting and sucking pest species in several different crops like oilseed rape, potato, cereals, sugar beet and others .

B.3.10 Information on the development of resistance

Grain aphids *Sitobion avenae* resistant to pyrethroids including beta-cyfluthrin have been observed in the UK and Ireland. The mechanism correlated with this resistance has been found to be a knockdown resistance (KDR). Reduced efficacy of pyrethroids against this species has also been found in parts of Germany.
Pyrethroid resistance (KDR and super-KDR) has also been reported in the polyphagous aphid *Myzus persicae* in Europe, which occurs on a large number of different crops including potato, oilseed rape and beet.
The Colorado potato beetle *Leptinotarsa decemlineata* is also known to show resistance to pyrethroids in several European countries (metabolic resistance as well as KDR)

B.3.11 Adverse effects on treated crops

No phytotoxic effects on treated crops have been observed in the long period of commercial use of beta-cyfluthrin in several countries with a wide range of different crops. No adverse effects on quality or yield of treated crops have been observed.

B.3.12 Observations on other undesirable or unintended side-effects

No undesirable or unintended side-effects of the product Bulldock EC 25 have been observed. Experience from the long commercial use of beta-cyfluthrin in a large number of countries with a wide range of crops showed no adverse effects on quality or yield of adjacent crops or succeeding crops, or plants or plant products used for propagation.

B.3.13 References relied on

Reference list sorted by Annex point

There are no references in support of this section.